Nikon

DIGITAL CAMERA

D7000

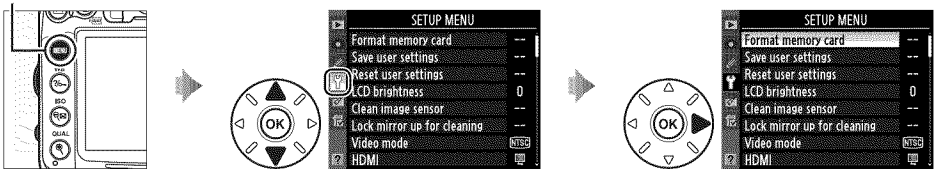
User's Manual

En

The Setup Menu: *Camera Setup*

To display the setup menu, press **MENU** and select the (setup menu) tab.

MENU *button*



The setup menu contains the following options:

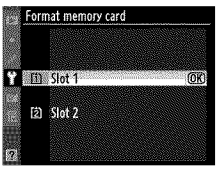
Option	🕮	Option	🕮
Format memory card	236	**Auto image rotation**	239
Save user settings	75	**Image Dust Off ref photo**	240
Reset user settings	76	**Battery info**	242
LCD brightness	237	**Wireless transmitter**	181
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1 Not available when battery is low.
2 Only displayed when compatible Eye-Fi memory card is inserted (🕮 247).

Format Memory Card

MENU *button* → *Setup menu*

To begin formatting, choose a memory card slot and select **Yes**. *Note that formatting permanently deletes all pictures and other data on the card in the selected slot.* Before formatting, be sure to make backup copies as required.



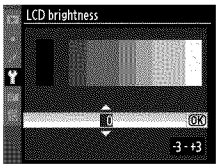
During Formatting
Do not turn the camera off or remove memory cards during formatting.

Two-Button Format
Memory cards can also be formatted by pressing the (and) buttons for more than two seconds (🕮 32).

LCD Brightness

MENU *button* → *Setup menu*

Press ▲ or ▼ to choose monitor brightness. Choose higher values for increased brightness, lower values for reduced brightness.



Live View
See page 49 for information on adjusting monitor brightness in live view or during movie recording.

Video Mode

MENU *button* → *Setup menu*

When connecting the camera to a television or VCR via the video connector, be sure the camera video mode matches the device video standard (NTSC or PAL).

Flicker Reduction

MENU *button* → *setup menu*

Reduce flicker and banding when shooting under fluorescent or mercury-vapor lighting during live view or movie recording. Choose a frequency which matches that of the local AC power supply.

Flicker Reduction
If you are unsure as to the frequency of the local power supply, test both options and choose the one that produces the best results. Flicker reduction may not produce the desired results if the subject is very bright, in which case you should select mode **A** or **M** and choose a smaller aperture (larger f-number) before starting live view. Note that flicker reduction is not available when **On** is selected for **Movie settings** > **Manual movie settings** (🕮 60) in mode **M**.

Time Zone and Date

MENU *button* → *Setup menu*

Change time zones, set the camera clock, choose the date display order, and turn daylight saving time on or off.

Option	Description
Time zone	Choose a time zone. The camera clock is automatically set to the time in the new time zone.
Date and time	Set the camera clock (🕮 27). If the clock is not set, a blinking CLOCK icon will appear in the control panel.
Date format	Choose the order in which the day, month, and year are displayed.
Daylight saving time	Turn daylight saving time on or off. The camera clock will automatically be advanced or set back one hour. The default setting is **Off**.

Language

MENU button → Setup menu

Choose a language for camera menus and messages. The following options are available.

Option	Description
Čeština	Czech
Dansk	Danish
Deutsch	German
English	English
Español	Spanish
Français	French
Indonesia	Indonesian
Italiano	Italian

Option	Description
Nederlands	Dutch
Norsk	Norwegian
Polski	Polish
Português	Portuguese
Русский	Russian
Suomi	Finnish
Svenska	Swedish
Türkçe	Turkish

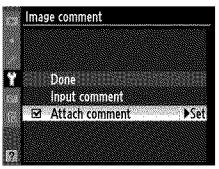
Option	Description
عربي	Arabic
中文(繁體)	Traditional Chinese
中文(简体)	Simplified Chinese
日本語	Japanese
한글	Korean
ภาษาไทย	Thai

Image Comment

MENU button → Setup menu

Add a comment to new photographs as they are taken. Comments can be viewed as metadata in ViewNX 2 (supplied) or Capture NX 2 (available separately; □ 281). The comment is also visible on the third shooting data page in the photo information display (□ 169).

- **Done**: Save changes and return to the setup menu.
- **Input comment**: Input a comment as described on page 137. Comments can be up to 36 characters long.
- **Attach comment**: Select this option to attach the comment to all subsequent photographs. **Attach comment** can be turned on and off by highlighting it and pressing ▶.

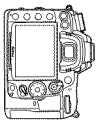


Auto Image Rotation

Photographs taken while **On** is selected contain information on camera orientation, allowing them to be rotated automatically during playback (📖 163) or when viewed in ViewNX 2 (supplied) or in Capture NX 2 (available separately; 📖 281). The following orientations are recorded:



Landscape (wide) orientation



Camera rotated 90° clockwise



Camera rotated 90° counter-clockwise

Camera orientation is not recorded when **Off** is selected. Choose this option when panning or taking photographs with the lens pointing up or down.

> **Rotate Tall**
> To automatically rotate "tall" (portrait-orientation) photographs for display during playback, select **On** for the **Rotate tall** option in the playback menu (📖 200). Note that because the camera itself is already in the appropriate orientation during shooting, images are not rotated automatically during image review (📖 163).

Image Dust Off Ref Photo

MENU button → Setup menu

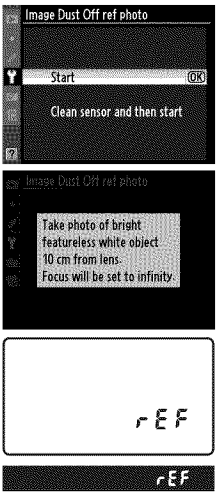
Acquire reference data for the Image Dust Off option in Capture NX 2 (available separately; for more information, see the Capture NX 2 manual).

Image Dust Off ref photo is available only when a CPU lens is mounted on the camera. A lens with a focal length of at least 50 mm is recommended. When using a zoom lens, zoom all the way in.

1 Choose a start option.

Highlight one of the following options and press OK. To exit without acquiring image dust off data, press MENU.





- **Start**: The message shown at right will be displayed and "rEF" will appear in the viewfinder and control panel displays.
- **Clean sensor and then start**: Select this option to clean the image sensor before starting. The message shown at right will be displayed and "rEF" will appear in the viewfinder and control panel displays when cleaning is complete.

> **Image Sensor Cleaning**
> Dust off reference data recorded before image sensor cleaning is performed can not be used with photographs taken after image sensor cleaning is performed. Select **Clean sensor and then start** only if the dust off reference data will not be used with existing photographs.

2 Frame a featureless white object in the viewfinder.

With the lens about ten centimeters (four inches) from a well-lit, featureless white object, frame the object so that it fills the viewfinder and then press the shutter-release button halfway.

In autofocus mode, focus will automatically be set to infinity; in manual focus mode, set focus to infinity manually.

3 Acquire dust off reference data.

Press the shutter-release button the rest of the way down to acquire Image Dust Off reference data. The monitor turns off when the shutter-release button is pressed. Note that noise reduction will be performed if the subject is poorly lit, increasing recording times.

If the reference object is too bright or too dark, the camera may be unable to acquire Image Dust Off reference data and the message shown at right will be displayed. Choose another reference object and repeat the process from step 1.



Image Dust Off Reference Data

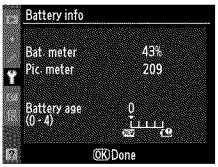
The same reference data can be used for photographs taken with different lenses or at different apertures. Reference images can not be viewed using computer imaging software. A grid pattern is displayed when reference images are viewed on the camera.



Battery Info

MENU *button* → *Setup menu*

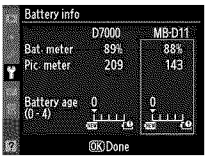
View information on the battery currently inserted in the camera.



Item	Description
Bat. meter	The current battery level expressed as a percentage.
Pic. meter	The number of times the shutter has been released with the current battery since the battery was last charged. Note that the camera may sometimes release the shutter without recording a photograph, for example when measuring preset white balance.
Battery age	A five-level display showing battery age. 0 (NEW) indicates that battery performance is unimpaired, 4 (replace) that the battery has reached the end of its charging life and should be replaced. Note that batteries charged at temperatures under about 5 °C (41 °F) may show a temporary drop in charging life; the battery age display will however return to normal once the battery has been recharged at a temperature of about 20 °C (68 °F) or higher.

The MB-D11 Battery Pack

The display for the MB-D11 battery pack is shown at right. If AA batteries are used, the battery level will be shown by a battery level icon; other items will not be displayed.

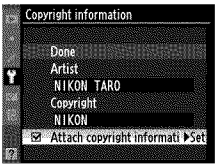


Copyright Information

MENU *button* → *Setup menu*

Add copyright information to new photographs as they are taken. Copyright information is visible on the fourth shooting data page in the photo information display (🕮 169) and can be viewed as metadata in ViewNX 2 (supplied) or in Capture NX 2 (available separately; 🕮 281).

- **Done**: Save changes and return to the setup menu.
- **Artist**: Enter a photographer name as described on page 137. Photographer names can be up to 36 characters long.
- **Copyright**: Enter the name of the copyright holder as described on page 137. Copyright holder names can be up to 54 characters long.
- **Attach copyright information**: Select this option to attach copyright information to all subsequent photographs. **Attach copyright information** can be turned on and off by highlighting it and pressing ▶.



Copyright Information

To prevent unauthorized use of the artist or copyright holder names, make sure that **Attach copyright information** is not selected and that the **Artist** and **Copyright** fields are blank before lending or transferring the camera to another person. Nikon does not accept liability for any damages or disputes arising from the use of the **Copyright information** option.

Save/Load Settings

MENU button → Setup menu

Select **Save settings** to save the following settings to the memory card in Slot 1 (if the memory card is full, an error will be displayed; □ 306).

Menu	Option
Playback	Display mode
	Image review
	After delete
	Rotate tall
Shooting	File naming
	Role played by card in Slot 2
	Image quality
	Image size
	JPEG compression
	NEF (RAW) recording
	White balance (with fine tuning and presets d-0–d-4)
	Set Picture Control
	Auto distortion control
	Color space
	Active D-Lighting
	Long exp. NR
	High ISO NR
	ISO sensitivity settings
	Movie settings
	Remote control mode

Menu	Option
Custom settings	All Custom Settings except **Reset custom settings**
Setup	Clean image sensor
	Video mode
	HDMI
	Flicker reduction
	Time zone and date (excepting date and time)
	Language
	Image comment
	Auto image rotation
	Copyright information
	GPS
	Non-CPU lens data
My Menu/ Recent Settings	All My Menu items
	All recent settings
	Choose tab

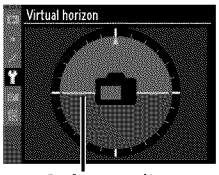
Settings saved using this model of camera can be restored by selecting **Load settings**. Note that **Save/load settings** is only available when a memory card is inserted in the camera, and that the **Load settings** option is only available if the card contains saved settings.

Saved Settings

Settings are saved in a file named NCSETUP7. The camera will not be able to load settings if the file name is changed.

Virtual Horizon

Display a virtual horizon based on information from the camera tilt sensor. The reference line is displayed in green when the camera is level.



Reference line

Tilting the Camera

The virtual horizon display is not accurate when the camera is tilted at a sharp angle forward or back. If the camera is unable to measure tilt, the amount of tilt will not be displayed.

Viewfinder Virtual Horizon

If **Viewfinder virtual horizon** is assigned to the **Fn** or depth-of-field preview button using Custom Setting f3 (**Assign Fn button**) or f4 (**Assign preview button**), a tilt meter can be displayed in the viewfinder by pressing the selected button (🕮 231).

See Also

A virtual horizon can also be displayed during live view (🕮 53).

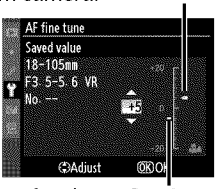
AF Fine Tune

MENU button → Setup menu

Fine-tune focus for up to 12 lens types. AF tuning is not recommended in most situations and may interfere with normal focus; use only when required.

Option	Description
AF fine tune (On/Off)	• **On**: Turn AF tuning on. • **Off**: Turn AF tuning off.
Saved value	Tune AF for the current lens (CPU lenses only). Press ▲ or ▼ to choose a value between +20 and –20. Values for up to 12 lens types can be stored. Only one value can be stored for each type of lens.
Default	Choose the AF tuning value used when no previously saved value exists for the current lens (CPU lenses only).
List saved values	List previously saved AF tuning values. If a value exists for the current lens, it will be shown with a ▮ icon. To delete a lens from the list, highlight the desired lens and press 🗑. To change a lens identifier (for example, to choose an identifier that is the same as the last two digits of the lens serial number to distinguish it from other lenses of the same type in light of the fact that **Saved value** can be used with only one lens of each type), highlight the desired lens and press ▶. The menu shown at right will be displayed; press ▲ or ▼ to choose an identifier and press OK to save changes and exit.

Move focal point away from camera. *Current value*



Move focal point toward camera. *Previous value*



AF Tuning

The camera may be unable to focus at minimum range or at infinity when AF tuning is applied.

Live View

Tuning is not applied to autofocus during in live view (📖 49).

Saved Value

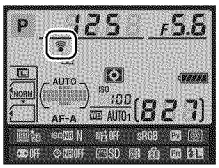
Only one value can be stored for each type of lens. If a teleconverter is used, separate values can be stored for each combination of lens and teleconverter.

Eye-Fi Upload

MENU button → Setup menu

This option is displayed only when an Eye-Fi memory card (available separately from third-party suppliers) is inserted in the camera. Choose **Enable** to upload photographs to a preselected destination. Note that pictures will not be uploaded if signal strength is insufficient.

Observe all local laws concerning wireless devices and choose **Disable** where wireless devices are prohibited.



When an Eye-Fi card is inserted, its status is indicated by an icon in the information display:

- : Eye-Fi upload disabled.
- : Eye-Fi upload enabled but no pictures available for upload.
- (static): Eye-Fi upload enabled; waiting to begin upload.
- (animated): Eye-Fi upload enabled; uploading data.
- : Error — camera can not control Eye-Fi card. If a blinking CArd appears in the control panel or viewfinder, refer to page 307; if this indicator is not displayed, pictures can be taken normally but you may be unable to change Eye-Fi settings.

Eye-Fi Cards

Eye-Fi cards may emit wireless signals when **Disable** is selected. If a warning is displayed in the monitor (📖 307), turn the camera off and remove the card.

See the manual provided with the Eye-Fi card, and direct any inquiries to the manufacturer. The camera can be used to turn Eye-Fi cards on and off, but may not support other Eye-Fi functions.

Supported Eye-Fi Cards

As of June 2010, the following Eye-Fi cards can be used: 2 GB SD cards in the Share, Home, and Explore product categories, 4 GB SDHC cards in the Anniversary, Share Video, Explore Video, and Connect X2 product categories, and 8 GB SDHC cards in the Pro X2 and Explore X2 product categories. Eye-Fi cards are for use only in the country of purchase. Be sure the Eye-Fi card firmware has been updated to the latest version.

Firmware Version

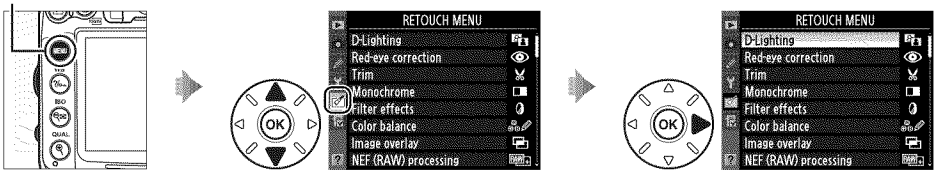
MENU button → Setup menu

View the current camera firmware version.

The Retouch Menu:
Creating Retouched Copies

To display the retouch menu, press **MENU** and select the (retouch menu) tab.

MENU *button*



The options in the retouch menu are used to create trimmed or retouched copies of existing pictures. The retouch menu is only displayed when a memory card containing photographs is inserted in the camera.

Option		Option	
D-Lighting	251	Straighten	261
Red-eye correction	251	Distortion control	261
Trim	252	Fisheye	261
Monochrome	253	Color outline	262
Filter effects	254	Color sketch	262
Color balance	255	Perspective control	263
Image overlay[1]	256	Miniature effect	263
NEF (RAW) processing	258	Edit movie	63
Resize	259	Side-by-side comparison[2]	264
Quick retouch	260		

1 Can only be selected by pressing **MENU** and selecting tab.
2 Only available if OK is pressed in full-frame playback when a retouched image or original is displayed.

Retouching Copies
With the exceptions of **Image overlay** and **Edit movie** > **Choose start point/Choose end point**, each effect can be applied only once (note that multiple edits may result in loss of detail). Options that can not be applied to the current image are grayed out and unavailable.

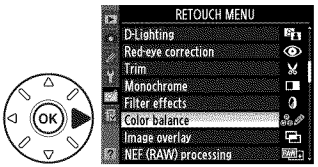
Image Quality
Except in the case of copies created with **Trim**, **Image overlay**, **NEF (RAW) processing**, and **Resize**, copies created from JPEG images are the same size and quality as the original, while copies created from NEF (RAW) photos are saved as large fine-quality JPEG images. Size-priority compression is used when copies are saved in JPEG format.

Creating Retouched Copies

To create a retouched copy:

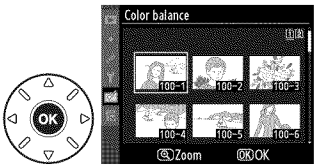
1 Display retouch options.

Highlight the desired item in the retouch menu and press ▶.



2 Select a picture.

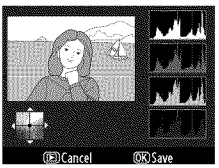
Highlight a picture and press ⓚ (to view the highlighted picture full screen, press and hold the 🔍 button; to view images in other locations as described on page 164, hold **BKT** and press ▲).



> **Retouch**
> The camera may not be able to display or retouch images created with other devices.

3 Select retouch options.

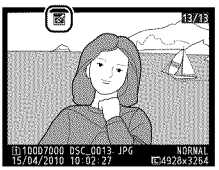
For more information, see the section for the selected item. To exit without creating a retouched copy, press **MENU**.



> **Monitor off Delay**
> The monitor will turn off and the operation will be cancelled if no actions are performed for 20 s; this can be adjusted using Custom Setting c4 (**Monitor off delay**; 🕮 215).

4 Create a retouched copy.

Press ⓚ to create a retouched copy. Retouched copies are indicated by a 🖉 icon.



Creating Retouched Copies During Playback

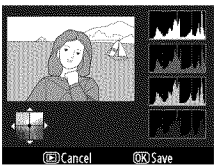
Retouched copies can also be created during playback.



Display picture full frame and press OK.



Highlight an option and press OK.



Create retouched copy.

D-Lighting

MENU button → retouch menu

D-lighting brightens shadows, making it ideal for dark or backlit photographs.

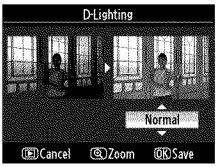


Before



After

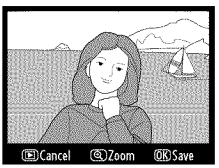
Press ▲ or ▼ to choose the amount of correction performed. The effect can be previewed in the edit display. Press OK to copy the photograph.



Red-Eye Correction

MENU button → retouch menu

This option is used to correct "red-eye" caused by the flash, and is available only with photographs taken using the flash. The photograph selected for red-eye correction is previewed as shown at right. Confirm the effects of red-eye correction and create a copy as described in the following table. Note that red-eye correction may not always produce the expected results and may in very rare circumstances be applied to portions of the image that are not affected by red-eye; check the preview thoroughly before proceeding.



To	Use	Description
Zoom in	⊕	Press ⊕ button to zoom in, ⊖ button to zoom out. While photo is zoomed in, use multiple selector to view areas of image not visible in monitor. Keep multi selector pressed to scroll rapidly to other areas of frame. Navigation window is displayed when zoom buttons or multi selector is pressed; area currently visible in monitor is indicated by yellow border. Press OK to cancel zoom.
Zoom out	⊖	
View other areas of image	OK	
Cancel zoom	OK	
Create copy	OK	If the camera detects red-eye in the selected photograph, a copy will be created that has been processed to reduce its effects. No copy will be created if the camera is unable to detect red-eye.

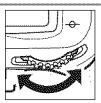


Trim

MENU button → retouch menu

Create a cropped copy of the selected photograph. The selected photograph is displayed with the selected crop shown in yellow; create a cropped copy as described in the following table.



To	Use	Description
Reduce size of crop		Press the button to reduce the size of the crop.
Increase size of crop		Press the button to increase the size of the crop.
Change crop aspect ratio		Rotate the main command dial to switch between aspect ratios of 3 : 2, 4 : 3, 5 : 4, 1 : 1, and 16 : 9.
Move crop		Use multi selector to move the crop to another area of the image.
Create copy		Save the current crop as a separate file.

Trim: Image Quality and Size



Copies created from NEF (RAW) or NEF (RAW) + JPEG photos have an image quality (📖 85) of JPEG fine; cropped copies created from JPEG photos have the same image quality as the original. The size of the copy varies with crop size and aspect ratio and appears at upper left in the crop display.

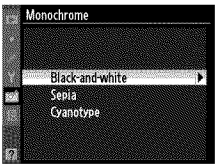
Viewing Cropped Copies

Playback zoom may not be available when cropped copies are displayed.

Monochrome

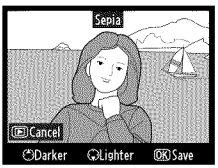
MENU button → retouch menu

Copy photographs in **Black-and-white**, **Sepia**, or **Cyanotype** (blue and white monochrome).



Selecting **Sepia** or **Cyanotype** displays a preview of the selected image; press ▲ to increase color saturation, ▼ to decrease. Press OK to create a monochrome copy.

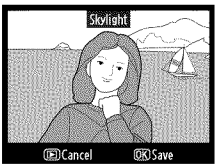
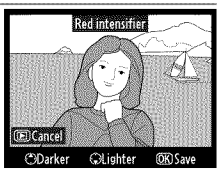
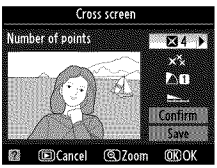
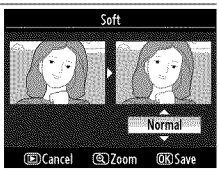




Filter Effects

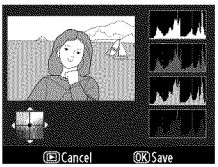
MENU button → retouch menu

Choose from the following filter effects. After adjusting filter effects as described below, press OK to copy the photograph.

Option	Description
Skylight	Creates the effect of a skylight filter, making the picture less blue. The effect can be previewed in the monitor as shown at right. 
Warm filter	Creates a copy with warm tone filter effects, giving the copy a "warm" red cast. The effect can be previewed in the monitor.
Red intensifier **Green intensifier** **Blue intensifier**	Intensify reds (**Red intensifier**), greens (**Green intensifier**), or blues (**Blue intensifier**). Press ▲ to increase the effect, ▼ to decrease. 
Cross screen	Add starburst effects to light sources. • **Number of points**: Choose from four, six, or eight. • **Filter amount**: Choose the brightness of the light sources affected. • **Filter angle**: Choose the angle of the points. • **Length of points**: Choose the length of points. • **Confirm**: Preview the effects of the filter as shown at right. Press 🔍 to preview the copy full frame. • **Save**: Create a retouched copy. 
Soft	Add a soft filter effect. Press ▲ or ▼ to choose the filter strength. 

Color Balance

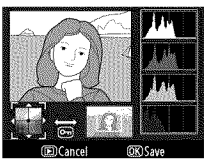
MENU button → retouch menu



Use the multi selector to create a copy with modified color balance as shown below. The effect is displayed in the monitor together with red, green, and blue histograms (📖 167) giving the distribution of tones in the copy.



Zoom



To zoom in on the image displayed in the monitor, press the 🔍 button. The histogram will be updated to show data only for the portion of the image displayed in the monitor. While the image is zoomed in, press the ?/🔑 button to toggle back and forth between color balance and zoom. When zoom is selected, you can zoom in and out with the 🔍 and 🔍 buttons and scroll the image with the multi selector.

Image Overlay

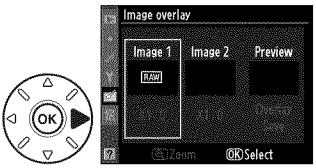
MENU button → retouch menu

Image overlay combines two existing NEF (RAW) photographs to create a single picture that is saved separately from the originals; the results, which make use of RAW data from the camera image sensor, are noticeably better than overlays created in an imaging application. The new picture is saved at current image quality and size settings; before creating an overlay, set image quality and size (📖 85, 88; all options are available). To create a NEF (RAW) copy, choose an image quality of **NEF (RAW)**.



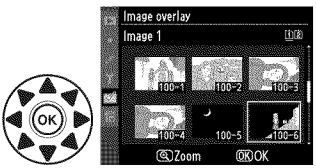
1 Select **Image overlay.**

Highlight **Image overlay** in the retouch menu and press ▶. The dialog shown at right will be displayed, with **Image 1** highlighted; press OK to display a list of the NEF pictures created with this camera.



2 Select the first image.

Use the multi selector to highlight a photo. To view the highlighted image full frame, press and hold the 🔍 button (to view images in other locations as described on page 164, hold **BKT** and press ▲). Press OK to select the highlighted photograph and return to the preview display.

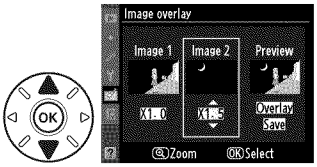


3 Select the second image.

The selected image will appear as **Image 1**. Highlight **Image 2** and press OK, then select the second photo as described in Step 2. Choose an image with the same bit-depth as the photo selected for **Image 1**.

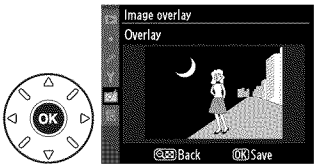
4 Adjust gain.

Highlight **Image 1** or **Image 2** and optimize exposure for the overlay by pressing ▲ or ▼ to select gain from values between 0.1 and 2.0. Repeat for the second image. The default value is 1.0; select 0.5 to halve gain or 2.0 to double it. The effects are visible in the **Preview** column.



5 Preview the overlay.

Press ◀ or ▶ to place the cursor in the **Preview** column and press ▲ or ▼ to highlight **Overlay**. Press ⓞ to preview the overlay as shown at right (to save the overlay without displaying a preview, select **Save**). To return to Step 4 and select new photos or adjust gain, press .



6 Save the overlay.

Press ⓞ while the preview is displayed to save the overlay. After an overlay is created, the resulting image will be displayed full-frame in the monitor.

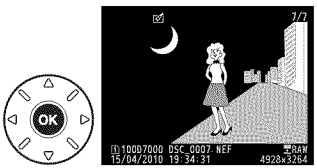


Image Overlay

The overlay has the same photo info (including date of recording, metering, shutter speed, aperture, shooting mode, exposure compensation, focal length, and image orientation), white balance, and Picture Control as **Image 1**. The current image comment is appended to the overlay; copyright information, however, is not copied. NEF (RAW) overlays use the compression selected for **Type** in the **NEF (RAW) recording** menu and have the same bit depth as the original images; JPEG overlays are saved using size-priority compression.

NEF (RAW) Processing

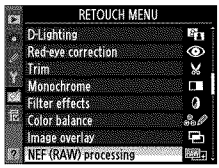
MENU *button* → *retouch menu*

Create JPEG copies of NEF (RAW) photographs.

1 Select **NEF (RAW) processing.**

Highlight **NEF (RAW) processing** in the retouch menu and press ▶ to display a picture selection dialog listing only NEF (RAW) images created with this camera.

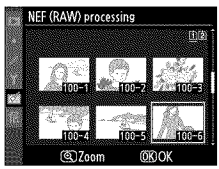




2 Select a photograph.

Highlight a photograph (to view the highlighted photograph full frame, press and hold the 🔍 button; to view images in other locations as described on page 164, hold **BKT** and press ▲). Press OK to select the highlighted photograph.

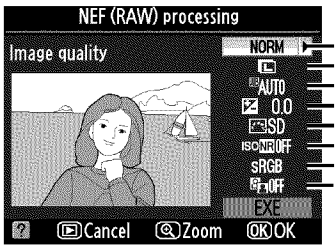




3 Choose settings for the JPEG copy.

Adjust image quality (📖 85), image size (📖 88), white balance (📖 117; if **Auto** is selected, white balance will be set to whichever of **Normal** and **Keep warm lighting colors** was in effect when the picture was taken), exposure compensation (📖 107), Picture Control (📖 131; note that the Picture Control grid can not be displayed), high ISO noise reduction (📖 205), color space (📖 141), and D-Lighting (📖 251). Note that white balance is not available with multiple exposures or pictures created with image overlay and that exposure compensation can only be set to values between –2 and +2 EV.

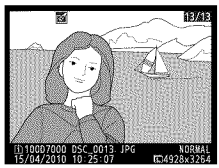




4 Copy the photograph.

Highlight **EXE** and press OK to create a JPEG copy of the selected photograph (to exit without copying the photograph, press the MENU button).





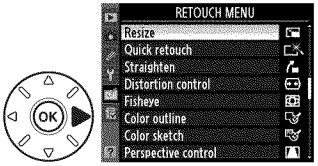
Resize

MENU button → retouch menu

Create small copies of selected photographs.

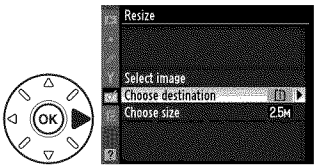
1 Select **Resize**.

To resize selected images, press MENU to display the menus and select **Resize** in the retouch menu.

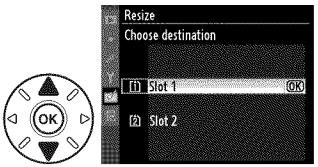


2 Choose a destination.

If two memory cards are inserted, you can choose a destination for the resized copies by highlighting **Choose destination** and pressing ▶ (if only one card is inserted, proceed to Step 3).

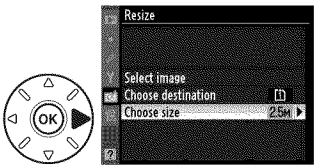


The menu shown at right will be displayed; highlight a card slot and press OK.

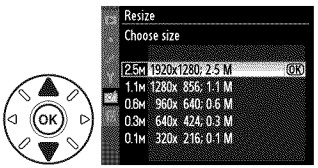


3 Choose a size.

Highlight **Choose size** and press ▶.



The following options will be displayed; highlight an option and press OK.

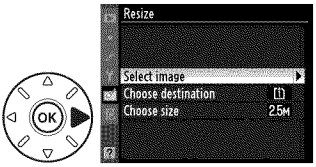


Option	Size (pixels)
2.5M	1920 × 1280
1.1M	1280 × 856
0.6M	960 × 640

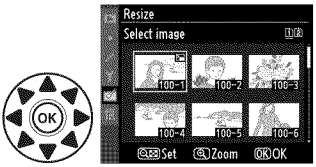
Option	Size (pixels)
0.3M	640 × 424
0.1M	320 × 216

4 Choose pictures.

Highlight **Select image** and press ▶.



The dialog shown at right will be displayed; highlight pictures using the multi selector and press the button to select or deselect (to view the highlighted picture full screen, press and hold the button; to view images in other locations as described on page 164, hold **BKT** and press ▲). Selected pictures are marked by a icon. Press ⓚ when the selection is complete.



5 Save the resized copies.

A confirmation dialog will be displayed. Highlight **Yes** and press ⓚ to save the resized copies.

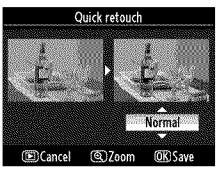
Viewing Resized Copies
Playback zoom may not be available when resized copies are displayed.

Image Quality
Copies created from NEF (RAW) or NEF (RAW) + JPEG photos have an image quality (📖 85) of JPEG fine; copies created from JPEG photos have the same image quality as the original.

Quick Retouch

MENU *button* ➜ *retouch menu*

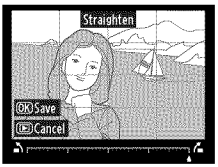
Create copies with enhanced saturation and contrast. D-Lighting is applied as required to brighten dark or backlit subjects.



Press ▲ or ▼ to choose the amount of enhancement. The effect can be previewed in the edit display. Press ⓚ to copy the photograph.

Straighten

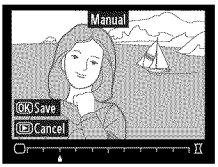
MENU button → retouch menu



Create a straightened copy of the selected image. Press ▶ to rotate the image clockwise by up to five degrees in increments of approximately 0.25 degrees, ◀ to rotate it counterclockwise (note that edges of the image will be trimmed to create a square copy). Press OK to copy the photograph, or press ▶ to exit to playback without creating a copy.

Distortion Control

MENU button → retouch menu

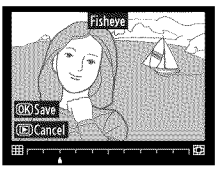


Create copies with reduced peripheral distortion. Select **Auto** to let the camera correct distortion automatically and then make fine adjustments using the multi selector, or select **Manual** to reduce distortion manually (note that **Auto** is not available with photos taken using auto distortion control; see page 205). Press ▶ to reduce barrel distortion, ◀ to reduce pin-cushion distortion (note that greater amounts of distortion control result in more of the edges being cropped out). Press OK to copy the photograph, or press ▶ to exit to playback without creating a copy.

> **Auto**
> **Auto** is for use only with pictures taken with type G and D lenses (PC, fisheye, and certain other lenses excluded). Results are not guaranteed with other lenses.

Fisheye

MENU button → retouch menu

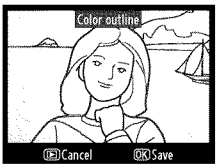


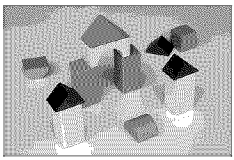
Create copies that appear to have been taken with a fisheye lens. Press ▶ to increase the effect (this also increases the amount of that will be cropped out at the edges of the image), ◀ to reduce it. Press OK to copy the photograph, or press ▶ to exit to playback without creating a copy.

Color Outline

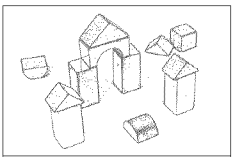
MENU *button* → *retouch menu*

Create an outline copy of a photograph to use as a base for painting. The effect can be previewed in the edit display. Press OK to copy the photograph.





Before

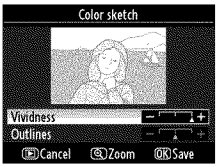


After

Color Sketch

MENU *button* → *retouch menu*

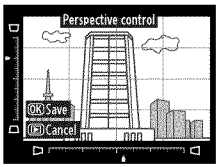
Create a copy of a photograph that resembles a sketch made with colored pencils. Press ▲ or ▼ to highlight **Vividness** or **Outlines** and press ◀ or ▶ to change. Vividness can be increased to make colors more saturated, or decreased for a washed-out, monochromatic effect, while outlines can be made thicker or thinner. The results can be previewed in the edit display. Press OK to copy the photograph, or press ▶ to exit to playback without creating a copy.

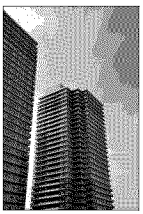


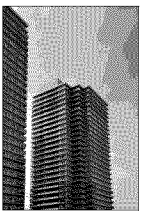
Perspective Control

MENU button → retouch menu

Create copies that reduce the effects of perspective taken from the base of a tall object. Use the multi selector to adjust perspective (note that greater amounts of perspective control result in more of the edges being cropped out). The results can be previewed in the edit display. Press OK to copy the photograph, or press ▶ to exit to playback without creating a copy.



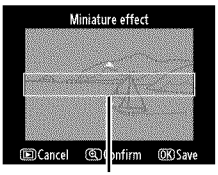
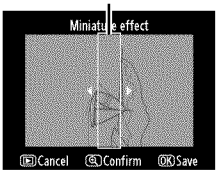

Before


After

Miniature Effect

MENU button → retouch menu

Create a copy that appears to be a photo of a diorama. Works best with photos taken from a high vantage point.

To	Press	Description
Choose area in focus		If photo is displayed in wide orientation, press ▲ or ▼ to position frame showing area of copy that will be in focus.  *Area in focus*
		If photo is displayed in tall orientation (📖 239), press ◀ or ▶ to position frame showing area of copy that will be in focus. 
Preview copy		Preview copy.
Cancel		Exit to full-frame playback without creating copy.
Create copy		Create copy.

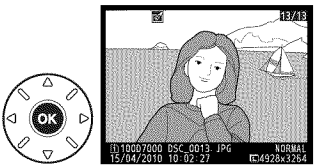
Side-by-side Comparison

MENU button → retouch menu

Compare retouched copies to the original photographs. This option is only available if the OK button is pressed to display the retouch menu when a copy or original is played back full frame.

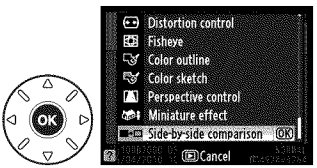
1 Select a picture.

In full-frame playback, select a retouched copy (shown by a icon) or a photograph that has been retouched and press OK.



2 Select **Side-by-side comparison.**

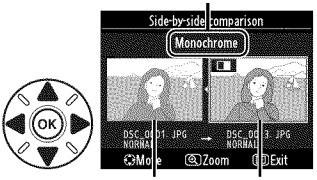
Highlight **Side-by-side comparison** and press OK.



3 Compare the copy with the original.

The source image is displayed on the left, the retouched copy on the right, with the options used to create the copy listed at the top of the display. Press ◀ or ▶ to switch between the source image and the retouched copy. To view the highlighted picture full frame, press and hold the button. If the copy was created from two source images using **Image overlay**, or if the source has been copied multiple times, press ▲ or ▼ to view the other source images or copies. To exit to playback mode, press the button. To exit to playback mode with the highlighted image displayed, press OK.

Options used to create copy



Source image *Retouched copy*

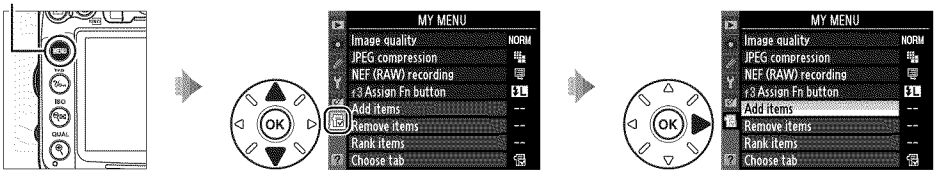
Side-by-side Comparisons

The source image will not be displayed if the copy was created from a photograph that was protected (174), is on a locked memory card, has since been deleted or hidden (196), or is on a card in a different slot from that used when the image was created.

My Menu/Recent Settings

"My Menu" is a customized menu that gives you quick access to up to 20 options selected from the playback, shooting, Custom Settings, setup, and retouch menus. To display My Menu, press **MENU** and select the (My Menu) tab.

MENU *button*



Options can be added, deleted, and reordered as described below. If desired, recent settings can be displayed in place of My Menu (268).

■■ *Adding Options to My Menu*

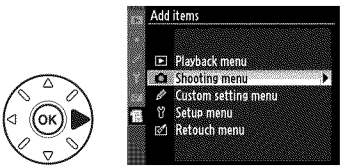
1 Select **Add items.**

In My Menu (), highlight **Add items** and press ▶.



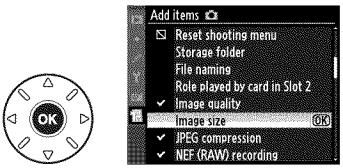
2 Select a menu.

Highlight the name of the menu containing the option you wish to add and press ▶.



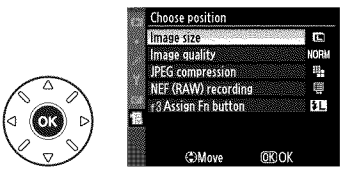
3 Select an item.

Highlight the desired menu item and press OK.



4 Position the new item.

Press ▲ or ▼ to move the new item up or down in My Menu. Press OK to add the new item.



5 Add more items.

The items currently displayed in My Menu are indicated by a check mark. Items indicated by a ☒ icon can not be selected. Repeat steps 1–4 to select additional items.



■■ *Deleting Options from My Menu*

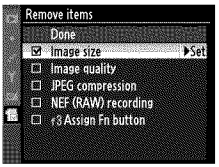
1 Select **Remove items.**

In My Menu (🖻), highlight **Remove items** and press ▶.

2 Select items.

Highlight items and press ▶ to select or deselect. Selected items are indicated by a check mark.

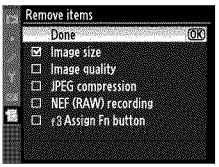




3 Select **Done.**

Highlight **Done** and press Ⓚ. A confirmation dialog will be displayed.





4 Delete the selected items.

Press Ⓚ to delete the selected items.





Deleting Items in My Menu

To delete the item currently highlighted in My Menu, press the 🗑 button. A confirmation dialog will be displayed; press 🗑 again to remove the selected item from My Menu.

■■ *Reordering Options in My Menu*

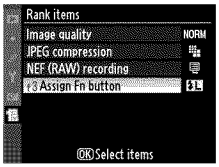
1 Select **Rank items.**

In My Menu (), highlight **Rank items** and press ▶.

2 Select an item.

Highlight the item you wish to move and press OK.

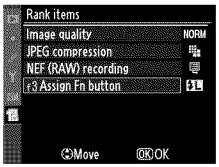




3 Position the item.

Press ▲ or ▼ to move the item up or down in My Menu and press OK. Repeat Steps 2–3 to reposition additional items.

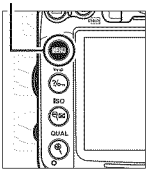


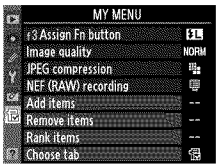


4 Exit to My Menu.

Press the **MENU** button to return to My Menu.

MENU *button*





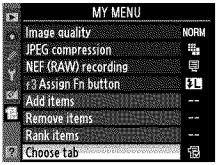
Recent Settings

To display the twenty most recently used settings, select **Recent settings** for **My Menu** > **Choose tab**.

1 Select **Choose tab.**

In My Menu (), highlight **Choose tab** and press ▶.

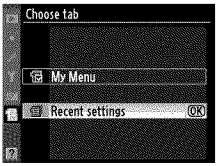




2 Select **Recent settings.**

Highlight **Recent settings** and press OK. The name of the menu will change from "MY MENU" to "RECENT SETTINGS."





Menu items are added to the top of the recent settings menu as they are used. To view My Menu again, select **My Menu** for **Recent settings** > **Choose tab**.

> **Removing Items from the Recent Settings Menu**
> To remove an item from the recent settings menu, highlight it and press the button. A confirmation dialog will be displayed; press again to delete the selected item.

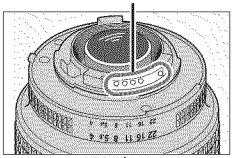
Technical Notes

Read this chapter for information on compatible accessories, cleaning and storing the camera, and what to do if an error message is displayed or you encounter problems using the camera.

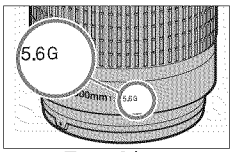
Compatible Lenses

CPU lenses (particularly types G and D) are recommended, but note that IX-NIKKOR lenses can not be used. CPU lenses can be identified by the presence of CPU contacts, type G and D lenses by a letter on the lens barrel. Type G lenses are not equipped with a lens aperture ring. The maximum aperture of the lens is given by the f-number in the lens name.

CPU contacts

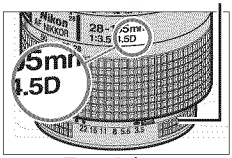


CPU lens



Type G lens

Aperture ring



Type D lens

Compatible CPU Lenses

Lens/accessory [1] \ Camera setting	Focus			Mode		Metering		
	AF	M (with electronic rangefinder)	M	Auto and scene modes; P, S, A	M	3D	Color	⊡
Type G or D AF NIKKOR/AF-S, AF-I NIKKOR	✔	✔	✔	✔	✔	✔	—	✔[2]
PC-E NIKKOR series	—	✔[3]	✔	✔[3]	✔[3]	✔[3]	—	✔[2,3]
PC Micro 85mm f/2.8D [4]	—	✔[3]	✔	—	✔	✔	—	✔[2,3]
AF-S/AF-I teleconverter [5]	✔[6]	✔[6]	✔	✔	✔	✔	—	✔[2]
Other AF NIKKOR (except lenses for F3AF)	✔[7]	✔[7]	✔	✔	✔	—	✔	✔[2]
AI-P NIKKOR	—	✔[8]	✔	✔	✔	—	✔	✔[2]

1 Vibration Reduction (VR) supported with VR lenses.
2 Spot metering meters selected focus point (📖 105).
3 Can not be used with shifting or tilting.
4 The camera's exposure metering and flash control systems may not function as expected when the lens is shifted and/or tilted or aperture is set to a value other than maximum.
5 AF-S or AF-I lens required.
6 With maximum effective aperture of f/5.6 or faster.
7 When AF 80–200mm f/2.8, AF 35–70mm f/2.8, AF 28–85mm f/3.5–4.5 (New), or AF 28–85mm f/3.5–4.5 lenses are zoomed all the way in at the minimum focus distance, the in-focus indicator may be displayed when the image on the matte screen in the viewfinder is not in focus. Focus manually until image in viewfinder is in focus.
8 With maximum aperture of f/5.6 or faster.

■■ *Compatible Non-CPU Lenses*

When using the following non-CPU lenses and accessories, rotate the camera mode dial to **A** and **M** and set aperture using the lens aperture ring. In other modes, the shutter-release is disabled. **Non-CPU lens data** (🕮 159) can be used to enable many of the features available with CPU lenses, including color matrix metering; if no data are provided, center-weighted metering will be used in place of color matrix metering, while if the maximum aperture is not provided, the camera aperture display will show the number of stops from maximum aperture and the actual aperture value must be read off the lens aperture ring. For a list of non-CPU lenses and accessories that can not be used with this camera, see page 271.

Camera setting / Lens/accessory	Focus		Mode		Metering			
	AF	M (with electronic rangefinder)	M	Auto and scene modes; P, S	A, M	3D	Color	
AI-, AI-modified, NIKKOR or Nikon Series E[1]	—	✔[2]	✔	—	✔[3]	—	✔[4]	✔[5]
Medical-NIKKOR 120mm f/4	—	✔	✔	—	✔[6]	—	—	—
Reflex-NIKKOR	—	—	✔	—	✔[3]	—	—	✔[5]
PC-NIKKOR	—	✔[7]	✔	—	✔[8]	—	—	✔
AI-type Teleconverter[9]	—	✔[10]	✔	—	✔[3]	—	✔[4]	✔[5]
PB-6 Bellows Focusing Attachment[11]	—	✔[10]	✔	—	✔[12]	—	—	✔
Auto extension rings (PK-series 11A, 12, or 13; PN-11)	—	✔[10]	✔	—	✔[3]	—	—	✔

1 Range of rotation for AI 80–200mm f/2.8 ED tripod mount is limited by camera body. Filters can not be exchanged while AI 200–400mm f/4 ED is mounted on camera.
2 With maximum aperture of f/5.6 or faster.
3 If maximum aperture is specified using **Non-CPU lens data** (🕮 159), aperture value will be displayed in viewfinder and control panel.
4 Can be used only if lens focal length and maximum aperture are specified using **Non-CPU lens data** (🕮 159). Use spot or center-weighted metering if desired results are not achieved.
5 For improved precision, specify lens focal length and maximum aperture using **Non-CPU lens data** (🕮 159).
6 Can be used in mode **M** at shutter speeds slower than flash sync speed by one step or more.
7 Electronic rangefinder can not be used with shifting or tilting.
8 Exposure determined by presetting lens aperture. In mode **A**, preset aperture using lens aperture ring before performing AE lock and shifting lens. In mode **M**, preset aperture using lens aperture ring and determine exposure before shifting lens.
9 Exposure compensation required when used with AI 28–85mm f/3.5–4.5, AI 35–105mm f/3.5–4.5, AI 35–135mm f/3.5–4.5, or AF-S 80–200mm f/2.8D. See teleconverter manual for details.
10 With maximum effective aperture of f/5.6 or faster.
11 Requires PK-12 or PK-13 auto extension ring. PB-6D may be required depending on camera orientation.
12 Use preset aperture. In mode **A**, set aperture using focusing attachment before determining exposure and taking photograph.

• PF-4 Reprocopy Outfit requires PA-4 Camera Holder.

Incompatible Accessories and Non-CPU Lenses

The following accessories and non-CPU lenses can NOT be used with the D7000:

- TC-16AS AF teleconverter
- Non-AI lenses
- Lenses that require the AU-1 focusing unit (400mm f/4.5, 600mm f/5.6, 800mm f/8, 1200mm f/11)
- Fisheye (6mm f/5.6, 7.5mm f/5.6, 8mm f/8, OP 10mm f/5.6)
- 2.1cm f/4
- Extension Ring K2
- 180–600mm f/8 ED (serial numbers 174041–174180)
- 360–1200mm f/11 ED (serial numbers 174031–174127)
- 200–600mm f/9.5 (serial numbers 280001–300490)
- AF lenses for the F3AF (AF 80mm f/2.8, AF 200mm f/3.5 ED, AF Teleconverter TC-16)
- PC 28mm f/4 (serial number 180900 or earlier)
- PC 35mm f/2.8 (serial numbers 851001–906200)
- PC 35mm f/3.5 (old type)
- Reflex 1000mm f/6.3 (old type)
- Reflex 1000mm f/11 (serial numbers 142361–143000)
- Reflex 2000mm f/11 (serial numbers 200111–200310)

The Built-in Flash

The built-in flash can be used with lenses with focal lengths of 16–300 mm, although in some cases the flash may be unable to entirely light the subject at some ranges or focal lengths due to shadows cast by the lens, while lenses that block the subject's view of the red-eye reduction lamp may interfere with red-eye reduction. Remove lens hoods to prevent shadows. The flash has a minimum range of 0.6 m (2 ft.) and can not be used in the macro range of macro zoom lenses. The flash may be unable to light the entire subject with the following lenses at ranges less than those given below:

Lens	Zoom position	Minimum distance without vignetting
AF-S DX NIKKOR 10–24mm f/3.5–4.5G ED	18 mm	1.0 m/3 ft. 3in.
	20–24 mm	No vignetting
AF-S DX Zoom-Nikkor 12–24mm f/4G IF-ED	18 mm	1.0 m/3 ft. 3 in.
	20–24 mm	No vignetting
AF-S NIKKOR 16–35mm f/4G ED VR	24 mm	2.0 m/6 ft. 7 in.
	28 mm	1.0 m/3 ft. 3 in.
	35 mm	No vignetting
AF-S Zoom-Nikkor 17–35mm f/2.8D IF-ED	20 mm	2.0 m/6 ft. 7 in.
	24–35 mm	No vignetting
AF-S DX Zoom-Nikkor 17–55mm f/2.8G IF-ED	24 mm	1.0 m/3 ft. 3 in.
	28–55 mm	No vignetting
AF Zoom-Nikkor 18–35mm f/3.5– 4.5D IF-ED	18 mm	1.0 m/3 ft. 3 in.
	24–35 mm	No vignetting

Lens	Zoom position	Minimum distance without vignetting
AF-S DX VR Zoom-Nikkor 18– 200mm f/3.5–5.6G IF-ED	18 mm	1.0 m/3 ft. 3 in.
AF-S DX NIKKOR 18– 200mm f/3.5– 5.6G ED VR II	24–200 mm	No vignetting
AF-S NIKKOR 24–70mm f/2.8G ED	28 mm	1.5 m/4 ft. 11 in.
	35–70 mm	No vignetting
AF-S Zoom-Nikkor 28–70mm f/2.8D IF-ED	28 mm	1.0 m/3 ft. 3 in.
	35–70 mm	No vignetting
PC-E NIKKOR 24mm f/3.5 ED *	24 mm	No vignetting

* When not shifted or tilted.

When used with the AF-S NIKKOR 14–24mm f/2.8G ED, the flash will be unable to light the entire subject at all ranges.

The built-in flash can also be used with AI-S, AI-, AI-modified NIKKOR, Nikon Series E and non-CPU lenses with a focal length of 16–300mm. AI 50–300mm f/4.5, modified AI 50–300mm f/4.5, and AI-S 50–300mm f/4.5 ED lenses must be used at a zoom position of 135mm or above, and AI 50–300mm f/4.5 ED lenses at a zoom position of 105mm or above.

The AF-S/AF-I Teleconverter

The AF-S/AF-I teleconverter can be used with the following AF-S and AF-I lenses:

- AF-S VR 70–200mm f/2.8G ED
- AF-S NIKKOR 70–200mm f/2.8G ED VR II
- AF-S 80–200mm f/2.8D ED
- AF-S VR Micro 105mm f/2.8G ED [1]
- AF-S VR 200mm f/2G ED
- AF-S VR 200–400mm f/4G ED [2]
- AF-S NIKKOR 200–400mm f/4G ED VR II [2]
- AF-S VR 300mm f/2.8G ED
- AF-S 300mm f/2.8D ED
- AF-S 300mm f/2.8D ED II
- AF-I 300mm f/2.8D ED
- AF-S 300mm f/4D ED [2]
- AF-S NIKKOR 400mm f/2.8G ED VR
- AF-S 400mm f/2.8D ED
- AF-S 400mm f/2.8D ED II
- AF-I 400mm f/2.8D ED
- AF-S NIKKOR 500mm f/4G ED VR [2]
- AF-S 500mm f/4D ED [2]
- AF-S 500mm f/4D ED II [2]
- AF-I 500mm f/4D ED [2]
- AF-S NIKKOR 600mm f/4G ED VR [2]
- AF-S 600mm f/4D ED [2]
- AF-S 600mm f/4D ED II [2]
- AF-I 600mm f/4D ED [2]

1 Autofocus not supported.

2 Autofocus not supported when used with AF-S Teleconverter TC-17E II/TC-20E II/TC-20E III.

AF-Assist Illumination

AF-assist illumination is available with lenses with focal lengths of 24–200 mm. It can not however be used to assist the focus operation with the following lenses:

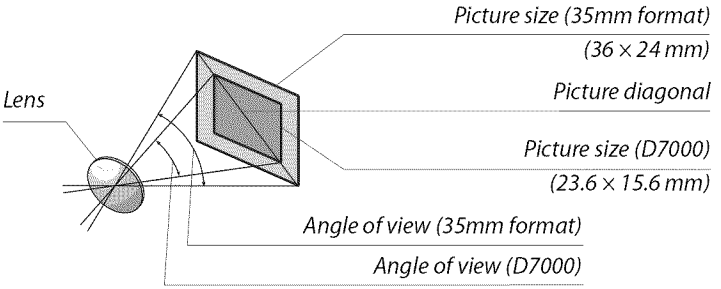
- AF-S NIKKOR 14–24mm f/2.8G ED
- AF-S VR Zoom-Nikkor 70–200mm f/2.8G IF-ED
- AF-S NIKKOR 70–200mm f/2.8G ED VR II
- Ai AF Zoom-Nikkor 80–200mm f/2.8D ED
- AF-S Zoom-Nikkor 80–200mm f/2.8D IF-ED
- Ai AF VR Zoom-Nikkor 80–400mm f/4.5–5.6D ED
- AF-S VR Nikkor 200mm f/2G IF-ED
- AF-S VR Zoom-Nikkor 200–400mm f/4G IF-ED
- AF-S NIKKOR 200–400mm f/4G ED VR II

At ranges under 1 m (3 ft. 3 in.), the following lenses may block the AF-assist illuminator and interfere with autofocus when lighting is poor:

- AF-S Zoom-Nikkor 17–35mm f/2.8D IF-ED
- AF-S DX Zoom-Nikkor 17–55mm f/2.8G IF-ED
- AF-S DX VR Zoom-Nikkor 18–200mm f/3.5–5.6G IF-ED
- AF-S DX NIKKOR 18–200mm f/3.5–5.6G ED VR II
- AF-S NIKKOR 24–70mm f/2.8G ED
- Ai AF Zoom Nikkor 24–120mm F3.5–5.6D (IF)
- AF-S VR Zoom-Nikkor 24–120mm f/3.5–5.6G IF-ED
- AF-S Zoom-Nikkor 28–70mm f/2.8D IF-ED
- AF-S NIKKOR 28–300mm f/3.5–5.6G ED VR
- AF Zoom-Micro Nikkor 70–180mm f/4.5–5.6D ED
- Ai AF Micro-Nikkor 200mm f/4D IF-ED

Calculating Angle of View

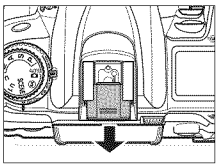
The size of the area exposed by a 35 mm camera is 36 × 24 mm. The size of the area exposed by the D7000, in contrast, is 23.6 × 15.6 mm, meaning that the angle of view of a 35mm camera is approximately 1.5 times that of the D7000. The approximate focal length of lenses for the D7000 in 35 mm format can be calculated by multiplying the focal length of the lens by about 1.5.



Optional Flash Units (Speedlights)

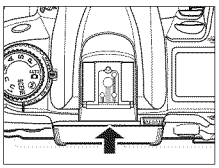
The camera supports the Nikon Creative Lighting System (CLS) and can be used with CLS-compatible flash units. Optional flash units can be attached directly to the camera accessory shoe as described below. The accessory shoe is equipped with a safety lock for flash units with a locking pin, such as the SB-900, SB-800, SB-700, SB-600, and SB-400.

1 **Remove the accessory shoe cover.**



2 **Mount the flash unit on the accessory shoe.**

See the manual provided with the flash unit for details. The built-in flash will not fire when an optional flash unit is attached.



The AS-15 Sync Terminal Adapter

When the AS-15 sync terminal adapter (available separately) is mounted on the camera accessory shoe, flash accessories can be connected via a sync terminal.

Use Only Nikon Flash Accessories

Use only Nikon flash units. Negative voltages or voltages over 250 V applied to the accessory shoe could not only prevent normal operation, but damage the sync circuitry of the camera or flash. Before using a Nikon flash unit not listed in this section, contact a Nikon-authorized service representative for more information.

The Nikon Creative Lighting System (CLS)

Nikon's advanced Creative Lighting System (CLS) offers improved communication between the camera and compatible flash units for improved flash photography.

■■ *CLS-Compatible Flash Units*

The camera can be used with the following CLS-compatible flash units:

- **The SB-900, SB-800, SB-700, SB-600, SB-400, and SB-R200:**

Feature \ Flash unit		SB-900 [1]	SB-800	SB-700	SB-600	SB-400	SB-R200 [2]
Guide No. [3]	ISO 100	34/111	38/125	28/92	30/98	21/69	10/33
	ISO 200	48/157	53/174	39/128	42/138	30/98	14/46

1 If a color filter is attached to the SB-900 when **AUTO** or ⚡ (flash) is selected for white balance, the camera will automatically detect the filter and adjust white balance appropriately.

2 Controlled remotely with built-in flash in commander mode or using optional SB-900, SB-800, or SB-700 flash unit or SU-800 wireless Speedlight commander.

3 m/ft., 20 °C (68 °F), SB-900, SB-800, SB-700, and SB-600 at 35 mm zoom head position; SB-900 and SB-700 with standard illumination.

- **The SU-800 wireless speedlight commander:** When mounted on a CLS-compatible camera, the SU-800 can be used as a commander for remote SB-900, SB-800, SB-700, SB-600, or SB-R200 flash units in up to three groups. The SU-800 itself is not equipped with a flash.

Guide Number

To calculate the range of the flash at full power, divide the Guide Number by the aperture. For example, at ISO 100 the SB-800 has a Guide Number of 38 m or 125 ft. (35 mm zoom head position); its range at an aperture of f/5.6 is 38÷5.6 or about 6.8 meters (or in feet, 125÷5.6=approximately 23 ft. 7 in.). For each twofold increase in ISO sensitivity, multiply the Guide Number by the square root of two (approximately 1.4).

The following features are available with CLS-compatible flash units:

Flash mode/feature		Flash unit: SB-900 / SB-800	SB-700	SB-600	SB-400	Advanced Wireless Lighting: Commander: SB-900 / SB-800	Commander: SB-700	Commander: SU-800 [1]	Remote: SB-900 / SB-800	Remote: SB-700 / SB-600	Remote: SB-R200
i-TTL	i-TTL balanced fill-flash for digital SLR	✔ [2]	✔ [3]	✔ [2]	✔ [3]	✔	✔	✔	✔	✔	✔
AA	Auto aperture	✔ [4]	—	—	—	✔ [5]	—	✔ [5]	✔ [5]	—	—
A	Non-TTL auto	✔ [4]	—	—	—	✔ [5]	—	—	✔ [5]	—	—
GN	Distance-priority manual	✔	✔	—	—	—	—	—	—	—	—
M	Manual	✔	✔	✔	✔ [6]	✔	✔	✔	✔	✔	✔
RPT	Repeating flash	✔	—	—	—	✔	—	✔	✔	✔	—
Auto FP High-Speed Sync [7]		✔	✔	✔	—	✔	✔	✔	✔	✔	✔
FV lock		✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
AF-assist for multi-area AF [8]		✔	✔	✔	—	✔	✔	✔	—	—	—
Flash Color Information Communication		✔	✔	✔	✔	✔	✔	—	—	—	—
REAR	Rear-curtain sync	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
👁	Red-eye reduction	✔	✔	✔	✔	✔	✔	—	—	—	—
Power zoom		✔	✔	✔	—	✔	✔	—	—	—	—

1 Only available when SU-800 is used to control other flash units.
2 Standard i-TTL flash for digital SLR is used with spot metering or when selected with flash unit.
3 Standard i-TTL flash for digital SLR is used with spot metering.
4 Selected with flash unit.
5 Auto aperture (**AA**) is used regardless of mode selected with flash unit.
6 Can be selected with camera.
7 Select **1/320 s (Auto FP)** or **1/250 s (Auto FP)** for Custom Setting e1 (**Flash sync speed**, 🕮 222).
8 CPU lens required.

Auto Aperture/Non-TTL Auto

Unless the focal length and maximum aperture are specified using the **Non-CPU lens data** option in the setup menu, choosing auto aperture (AA) when a non-CPU lens is attached automatically selects non-TTL auto (A).

■■ *Other Flash Units*

The following flash units can be used in non-TTL auto and manual modes. If they are set to TTL, the camera shutter-release button will lock and no photographs can be taken.

Flash mode \ Flash unit	SB-80DX, SB-28DX, SB-28, SB-26, SB-25, SB-24	SB-50DX[1]	SB-30, SB-27[2], SB-22S, SB-22, SB-20, SB-16B, SB-15	SB-23, SB-29[3], SB-21B[3], SB-29S[3]
A Non-TTL auto	✔	—	✔	—
M Manual	✔	✔	✔	✔
Repeating flash	✔	—	—	—
REAR Rear-curtain sync[4]	✔	✔	✔	✔

1 Select mode **P**, **S**, **A**, or **M**, lower built-in flash, and use optional flash unit only.
2 Flash mode is automatically set to TTL and shutter-release is disabled. Set flash unit to **A** (non-TTL auto flash).
3 Autofocus is available with AF-S VR Micro-Nikkor 105mm f/2.8G IF-ED and AF-S Micro NIKKOR 60mm f/2.8G ED lenses only.
4 Available when camera is used to select flash mode.

Flash Control Mode

The information display shows the flash control mode for optional flash units attached to the camera accessory shoe as follows:

	Flash sync	Auto FP (🕮 222)
i-TTL		
Auto aperture (AA)*		
Non-TTL auto flash (A)		
Distance-priority manual (GN)		
Manual		
Repeating flash		—
Advanced wireless lighting		

* Available with SB-900, and SB-800 only.

Notes on Optional Flash Units

Refer to the Speedlight manual for detailed instructions. If the flash unit supports CLS, refer to the section on CLS-compatible digital SLR cameras. The D7000 is not included in the "digital SLR" category in the SB-80DX, SB-28DX, and SB-50DX manuals.

If an optional flash unit is attached in shooting modes other than ⊛, the flash will fire with every shot, even in modes in which the built-in flash can not be used.

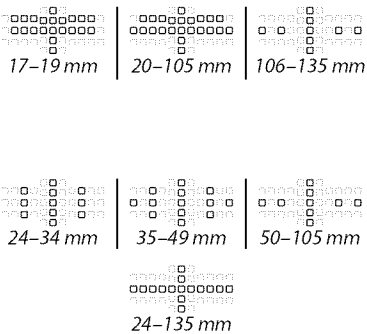
i-TTL flash control can be used at ISO sensitivities between 100 and 6400. At values over 6400, the desired results may not be achieved at some ranges or aperture settings. If the flash-ready indicator blinks for about three seconds after a photograph is taken, the flash has fired at full power and the photograph may be underexposed.

When an SC-series 17, 28, or 29 sync cable is used for off-camera flash photography, correct exposure may not be achieved in i-TTL mode. We recommend that you choose spot metering to select standard i-TTL flash control. Take a test shot and view the results in the monitor.

In i-TTL, use the flash panel or bounce adapter provided with the flash unit. Do not use other panels such as diffusion panels, as this may produce incorrect exposure.

The SB-900, SB-800, SB-700, SB-600, and SB-400 provide red-eye reduction, while the SB-900, SB-800, SB-700, SB-600, and SU-800 provide AF-assist illumination with the following restrictions:

- **SB-900**: AF-assist illumination is available for all focus points; with 17–135 mm AF lenses, however, autofocus is available only with the focus points shown at right (if other focus points are selected, the AF-assist illuminator may not provide sufficient illumination for autofocus).
- **SB-800, SB-600, and SU-800**: With 24–105 mm AF lenses, AF-assist illumination is available only with the focus points shown at right.
- **SB-700**: AF-assist illumination is available for all focus points; with 24–135 mm AF lenses, however, autofocus is available only with the focus points shown at right (if other focus points are selected, the AF-assist illuminator may not provide sufficient illumination for autofocus).



Other Accessories

At the time of writing, the following accessories were available for the D7000.

Power sources	• **Rechargeable Li-ion Battery EN-EL15** (□ 21–24): Additional EN-EL15 batteries are available from local retailers and Nikon-authorized service representatives. • **Battery Charger MH-25** (□ 21): Recharge EN-EL15 batteries. • **Multi-Power Battery Pack MB-D11**: The MB-D11 is equipped with a shutter-release button, AE/AF lock button, multi selector, and main- and sub-command dials for improved operation when taking photographs in portrait (tall) orientation. When attaching the MB-D11, remove the camera MB-D11 contact cover. • **Power Connector EP-5B, AC Adapter EH-5a**: These accessories can be used to power the camera for extended periods (EH-5 AC adapters can also be used). The EP-5B is required to connect the camera to the EH-5a; see page 282 for details. Note that when the camera is used with an MB-D11, the EP-5B must be inserted into the MB-D11, not the camera. Do not attempt to use the camera with power connectors inserted into both the camera and MB-D11.
Wireless LAN adapters	• **Wireless Transmitter WT-4**: Connects the camera to wireless and Ethernet networks. The photographs on the camera memory card can be viewed by computers on the same network or copied to a computer for long-term storage (be sure to always use the latest version of the software supplied with the WT-4). The camera can also be controlled from any computer on the network using Camera Control Pro 2 (available separately). Note that the WT-4 requires an independent power source; an EH-6 AC adapter or EN-EL3e battery is recommended. See the WT-4 manual for details.
Filters	• Filters intended for special-effects photography may interfere with autofocus or the electronic rangefinder. • The D7000 can not be used with linear polarizing filters. Use C-PL or C-PL II circular polarizing filters instead. • NC filters are recommended for protecting the lens. • To prevent ghosting, use of a filter is not recommended when the subject is framed against a bright light, or when a bright light source is in the frame. • Center-weighted metering is recommended with filters with exposure factors (filter factors) over 1 × (Y44, Y48, Y52, O56, R60, X0, X1, C-PL, ND2S, ND4, ND4S, ND8, ND8S, ND400, A2, A12, B2, B8, B12). See the filter manual for details.

Viewfinder eyepiece accessories

- **DK-20C Eyepiece Correction Lenses**: Lenses are available with diopters of –5, –4, –3, –2, 0, +0.5, +1, +2, and +3 m^{-1} when the camera diopter adjustment control is in the neutral position (–1 m^{-1}). Use eyepiece correction lenses only if the desired focus can not be achieved with the built in diopter adjustment control (–3 to +1 m^{-1}). Test eyepiece correction lenses before purchase to ensure that the desired focus can be achieved. The rubber eyecup can not be used with eyepiece correction lenses.
- **Magnifying Eyepiece DK-21M**: The DK-21M magnifies the view through the viewfinder by approximately 1.17 × (50 mm f/1.4 lens at infinity; –1.0 m^{-1}) for greater precision when framing.
- **Magnifier DG-2**: The DG-2 magnifies the scene displayed in the center of the viewfinder for greater precision during focusing. Eyepiece adapter required (available separately).
- **Eyepiece Adapter DK-22**: The DK-22 is used when attaching the DG-2 magnifier.
- **Right-Angle Viewing Attachment DR-6**: The DR-6 attaches at a right angle to the viewfinder eyepiece, allowing the image in the viewfinder to be viewed at right angles to the lens (for example, from directly above when the camera is horizontal).

Software

- **Capture NX 2**: A complete photo editing package offering such features as white balance adjustment and color control points.
- **Camera Control Pro 2**: Control the camera remotely from a computer to record movies and photographs and save photographs directly to the computer hard disk.

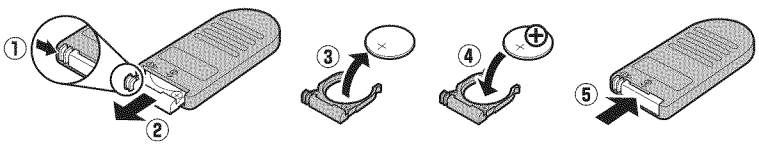
Note: Use the latest versions of Nikon software. Most Nikon software offers an auto update feature when the computer is connected to the Internet. See the websites listed on page xvii for the latest information on supported operating systems.

Body cap

BF-1B and BF-1A Body Caps: The body cap keeps the mirror, viewfinder screen, and low-pass filter free of dust when a lens is not in place.

Remote controls

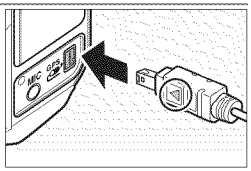
ML-L3 wireless remote control: Use as a remote shutter release for self-portraits or to prevent blur caused by camera shake. The ML-L3 uses a 3 V CR2025 battery.



Pressing the battery-chamber latch to the right (①), insert a fingernail into the gap and open the battery chamber (②). Ensure that the battery is inserted in the correct orientation (④).

Accessory terminal accessories

The D7000 is equipped with an accessory terminal for **MC-DC2 remote cords** (🕮 73) and **GP-1 GPS units** (🕮 162), which connect with the ◀ mark on the connector aligned with the ▶ next to the accessory terminal (close the camera connector cover when the terminal is not in use).

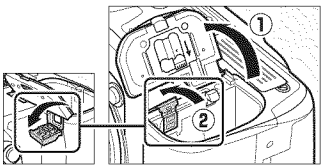


Attaching a Power Connector and AC Adapter

Turn the camera off before attaching an optional power connector and AC adapter.

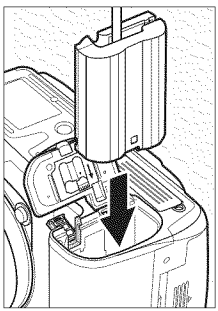
1 Ready the camera.

Open the battery-chamber (①) and power connector (②) covers.



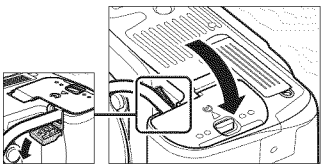
2 Insert the EP-5B power connector.

Be sure to insert the connector in the orientation shown, using the connector to keep the orange battery latch pressed to one side. The latch locks the connector in place when the connector is fully inserted.



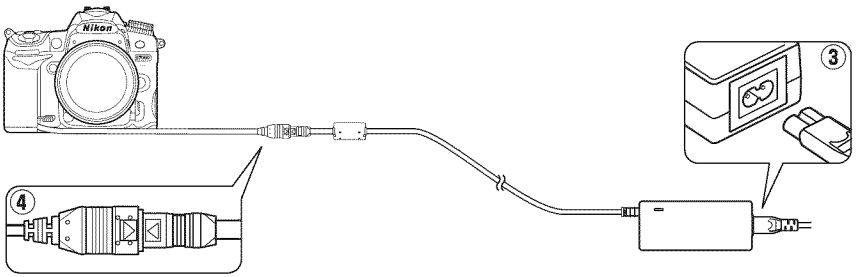
3 Close the battery-chamber cover.

Position the power connector cable so that it passes through the power connector slot and close the battery-chamber cover.



4 Connect the AC adapter.

Connect the AC adapter power cable to the AC socket on AC adapter (③) and the EP-5B power cable to the DC socket (④). A icon is displayed in the monitor when the camera is powered by the AC adapter and power connector.



Caring for the Camera

Storage

When the camera will not be used for an extended period, replace the monitor cover, remove the battery, and store the battery in a cool, dry area with the terminal cover in place. To prevent mold or mildew, store the camera in a dry, well-ventilated area. Do not store your camera with naphtha or camphor moth balls or in locations that:

- are poorly ventilated or subject to humidities of over 60%
- are next to equipment that produces strong electromagnetic fields, such as televisions or radios
- are exposed to temperatures above 50 °C (122 °F) or below –10 °C (14 °F)

Cleaning

Camera body	Use a blower to remove dust and lint, then wipe gently with a soft, dry cloth. After using the camera at the beach or seaside, wipe off sand or salt with a cloth lightly dampened in distilled water and dry thoroughly. **Important**: *Dust or other foreign matter inside the camera may cause damage not covered under warranty.*
Lens, mirror, and viewfinder	These glass elements are easily damaged. Remove dust and lint with a blower. If using an aerosol blower, keep the can vertical to prevent the discharge of liquid. To remove fingerprints and other stains, apply a small amount of lens cleaner to a soft cloth and clean with care.
Monitor	Remove dust and lint with a blower. When removing fingerprints and other stains, wipe the surface lightly with a soft cloth or chamois leather. Do not apply pressure, as this could result in damage or malfunction.

Do not use alcohol, thinner, or other volatile chemicals.

Servicing the Camera and Accessories

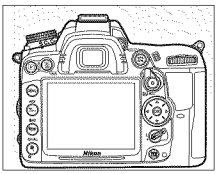
The camera is a precision device and requires regular servicing. Nikon recommends that the camera be inspected by the original retailer or Nikon-authorized service representative once every one to two years, and that it be serviced once every three to five years (note that fees apply to these services). Frequent inspection and servicing are particularly recommended if the camera is used professionally. Any accessories regularly used with the camera, such as lenses or optional Speedlights, should be included when the camera is inspected or serviced.

The Low-Pass Filter

The image sensor that acts as the camera's picture element is fitted with a low-pass filter to prevent moiré. If you suspect that dirt or dust on the filter is appearing in photographs, you can clean the filter using the **Clean image sensor** option in the setup menu. The filter can be cleaned at any time using the **Clean now** option, or cleaning can be performed automatically when the camera is turned on or off.

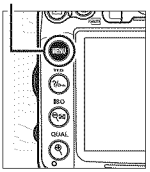
■■ *"Clean Now"*

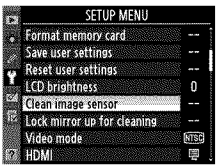
1 **Place the camera base down.**
Image sensor cleaning is most effective when the camera is placed base down as shown at right.



2 **Display the Clean image sensor menu.**
Press the MENU button to display the menus. Highlight **Clean image sensor** in the setup menu and press ▶.

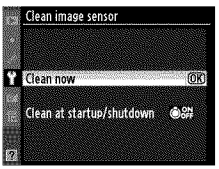
MENU *button*



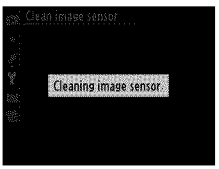


3 **Select Clean now.**
Highlight **Clean now** and press OK.

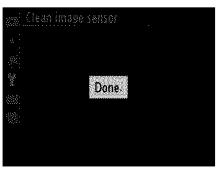




The message shown at right will be displayed while cleaning is in progress.



The message shown at right will be displayed when cleaning is in complete.



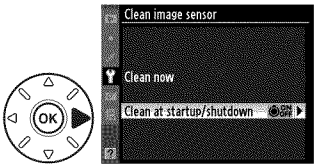
■ *"Clean at Startup/Shutdown"*

Choose from the following options:

Option	Description
ON **Clean at startup**	The image sensor is automatically cleaned each time the camera is turned on.
OFF **Clean at shutdown**	The image sensor is automatically cleaned during shutdown each time the camera is turned off.
ON/OFF **Clean at startup & shutdown**	The image sensor is cleaned automatically at startup and at shutdown.
Cleaning off	Automatic image sensor cleaning off.

1 **Select Clean at startup/shutdown.**

Display the **Clean image sensor** menu as described in Step 2 on the previous page. Highlight **Clean at startup/shutdown** and press ▶.



2 **Select an option.**

Highlight an option and press OK.

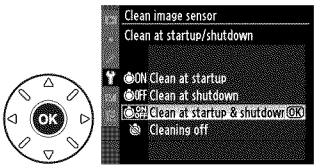


Image Sensor Cleaning

Using camera controls interrupts image sensor cleaning. Image sensor cleaning may not be performed at startup if the flash is charging.

Cleaning is performed by vibrating the low-pass filter. If dust can not be fully removed using the options in the **Clean image sensor** menu, clean the image sensor manually (🕮 286) or consult a Nikon-authorized service representative.

If image sensor cleaning is performed several times in succession, image sensor cleaning may be temporarily disabled to protect the camera's internal circuitry. Cleaning can be performed again after a short wait.

■■ *"Manual Cleaning"*

If foreign matter can not be removed from the low-pass filter using the **Clean image sensor** option in the setup menu (📖 284), the filter can be cleaned manually as described below. Note, however, that the filter is extremely delicate and easily damaged. Nikon recommends that the filter be cleaned only by Nikon-authorized service personnel.

1 Charge the battery or connect an AC adapter.

A reliable power source is required when inspecting or cleaning the low-pass filter. Turn the camera off and insert a fully-charged EN-EL15 battery or connect an optional EP-5B power connector and EH-5a AC adapter.

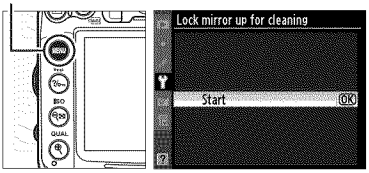
2 Remove the lens.

Turn the camera off and remove the lens.

3 Select **Lock mirror up for cleaning.**

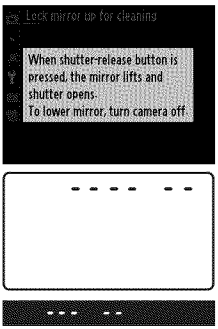
Turn the camera on and press the **MENU** button to display the menus. Highlight **Lock mirror up for cleaning** in the setup menu and press ▶ (note that this option is not available at battery levels of 🪫 or below).

MENU *button*



4 Press ⓞⓚ.

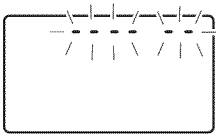
The message shown at right will be displayed in the monitor and a row of dashes will appear in the control panel and viewfinder. To restore normal operation without inspecting the low-pass filter, turn the camera off.



5 Raise the mirror.

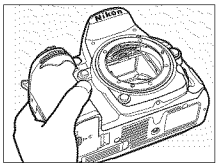
Press the shutter-release button all the way down. The mirror will be raised and the shutter curtain will open, revealing the low-pass filter.





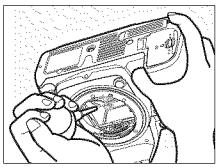
6 Examine the low-pass filter.

Holding the camera so that light falls on the low-pass filter, examine the filter for dust or lint. If no foreign objects are present, proceed to Step 8.



7 Clean the filter.

Remove any dust and lint from the filter with a blower. Do not use a blower-brush, as the bristles could damage the filter. Dirt that can not be removed with a blower can only be removed by Nikon-authorized service personnel. Under no circumstances should you touch or wipe the filter.



8 Turn the camera off.

The mirror will return to the down position and the shutter curtain will close. Replace the lens or body cap.

Use a Reliable Power Source

The shutter curtain is delicate and easily damaged. If the camera powers off while the mirror is raised, the curtain will close automatically. To prevent damage to the curtain, observe the following precautions:

- Do not turn the camera off or remove or disconnect the power source while the mirror is raised.
- If the battery runs low while the mirror is raised, a beep will sound and the self-timer lamp will blink to warn that the shutter curtain will close and the mirror will be lowered after about two minutes. End cleaning or inspection immediately.

Foreign Matter on the Low-Pass Filter

Nikon takes every possible precaution to prevent foreign matter from coming into contact with the low-pass filter during production and shipping. The D7000, however, is designed to be used with interchangeable lenses, and foreign matter may enter the camera when lenses are removed or exchanged. Once inside the camera, this foreign matter may adhere to the low-pass filter, where it may appear in photographs taken under certain conditions. To protect the camera when no lens is in place, be sure to replace the body cap provided with the camera, being careful to first remove all dust and other foreign matter that may be adhering to the body cap. Avoid exchanging lenses in dusty environments.

Should foreign matter find its way onto the low-pass filter, clean the filter as described above, or have the filter cleaned by authorized Nikon service personnel. Photographs affected by the presence of foreign matter on the filter can be retouched using Capture NX 2 (available separately; 📖 281) or the clean image options available in some third-party imaging applications.

Caring for the Camera and Battery: Cautions

Do not drop: The product may malfunction if subjected to strong shocks or vibration.

Keep dry: This product is not waterproof, and may malfunction if immersed in water or exposed to high levels of humidity. Rusting of the internal mechanism can cause irreparable damage.

Avoid sudden changes in temperature: Sudden changes in temperature, such as those that occur when entering or leaving a heated building on a cold day, can cause condensation inside the device. To prevent condensation, place the device in a carrying case or plastic bag before exposing it to sudden changes in temperature.

Keep away from strong magnetic fields: Do not use or store this device in the vicinity of equipment that generates strong electromagnetic radiation or magnetic fields. Strong static charges or the magnetic fields produced by equipment such as radio transmitters could interfere with the monitor, damage data stored on the memory card, or affect the product's internal circuitry.

Do not leave the lens pointed at the sun: Do not leave the lens pointed at the sun or other strong light source for an extended period. Intense light may cause the image sensor to deteriorate or produce a white blur effect in photographs.

Turn the product off before removing or disconnecting the power source: Do not unplug the product or remove the battery while the product is on or while images are being recorded or deleted. Forcibly cutting power in these circumstances could result in loss of data or in damage to product memory or internal circuitry. To prevent an accidental interruption of power, avoid carrying the product from one location to another while the AC adapter is connected.

Cleaning: Keep the lens contacts clean. When cleaning the camera body, use a blower to gently remove dust and lint, then wipe gently with a soft, dry cloth. After using the camera at the beach or seaside, wipe off any sand or salt using a cloth lightly dampened in pure water and then dry the camera thoroughly. In rare instances, static electricity may cause LCDs to light up or go dark. This does not indicate a malfunction, and the display will soon return to normal.

The lens and mirror are easily damaged. Dust and lint should be gently removed with a blower. When using an aerosol blower, keep the can vertical to prevent discharge of liquid. To remove fingerprints and other stains from the lens, apply a small amount of lens cleaner to a soft cloth and wipe the lens carefully.

See "The Low-Pass Filter" (📖 284, 286) for information on cleaning the low-pass filter.

Do not touch the shutter curtain: The shutter curtain is extremely thin and easily damaged. Under no circumstances should you exert pressure on the curtain, poke it with cleaning tools, or subject it to powerful air currents from a blower. These actions could scratch, deform, or tear the curtain.

Storage: To prevent mold or mildew, store the camera in a dry, well-ventilated area. If you are using an AC adapter, unplug the adapter to prevent fire. If the product will not be used for an extended period, remove the battery to prevent leakage and store the camera in a plastic bag containing a desiccant. Do not, however, store the camera case in a plastic bag, as this may cause the material to deteriorate. Note that desiccant gradually loses its capacity to absorb moisture and should be replaced at regular intervals.

To prevent mold or mildew, take the camera out of storage at least once a month. Turn the camera on and release the shutter a few times before putting it away.

Store the battery in a cool, dry place. Replace the terminal cover before putting the battery away.

Notes on the monitor: The monitor may contain a few pixels that are always lit or that do not light. This is common to all TFT LCD monitors and does not indicate a malfunction. Images recorded with the product are unaffected.

Images in the monitor may be difficult to see in a bright light.

Do not apply pressure to the monitor, as this could cause damage or malfunction. Dust or lint on the monitor can be removed with a blower. Stains can be removed by wiping lightly with a soft cloth or chamois leather. Should the monitor break, care should be taken to avoid injury from broken glass and to prevent liquid crystal from the monitor touching the skin or entering the eyes and mouth.

Replace the monitor cover when transporting the camera or leaving it unattended.

Batteries: Batteries may leak or explode if improperly handled. Observe the following precautions when handling batteries:

- Use only batteries approved for use in this equipment.
- Do not expose the battery to flame or excessive heat.
- Keep the battery terminals clean.
- Turn the product off before replacing the battery.
- Remove the battery from the camera or charger when not in use and replace the terminal cover. These devices draw minute amounts of charge even when off and could draw the battery down to the point that it will no longer function. If the battery will not be used for some time, insert it in the camera and run it flat before removing it and storing it in a location with an ambient temperature of 15 to 25 °C (59 to 77 °F; avoid hot or extremely cold locations). Repeat this process at least once every six months.
- The internal temperature of the battery may rise while the battery is in use. Attempting to charge the battery while the internal temperature is elevated will impair battery performance, and the battery may not charge or charge only partially. Wait for the battery to cool before charging.
- Continuing to charge the battery after it is fully charged can impair battery performance.
- A marked drop in the time a fully charged battery retains its charge when used at room temperature indicates that it requires replacement. Purchase a new EN-EL15 battery.

- Charge the battery before use. When taking photographs on important occasions, ready a spare EN-EL15 battery and keep it fully charged. Depending on your location, it may be difficult to purchase replacement batteries on short notice. Note that on cold days, the capacity of batteries tends to decrease. Be sure the battery is fully charged before taking photographs outside in cold weather. Keep a spare battery in a warm place and exchange the two as necessary. Once warmed, a cold battery may recover some of its charge.
- Used batteries are a valuable resource; recycle in accord with local regulations.

Available Settings

The following table lists the settings that can be adjusted in each mode.

		AUTO		P	S, A, M					
Shooting menu [1]	Storage folder	✔	✔	✔	✔	✔	✔	✔	✔	✔
	File naming	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Role played by card in Slot 2	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Image quality [2]	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Image size [2]	✔	✔	✔	✔	✔	✔	✔	✔	✔
	JPEG compression	✔	✔	✔	✔	✔	✔	✔	✔	✔
	NEF (RAW) recording	✔	✔	✔	✔	✔	✔	✔	✔	✔
	White balance [2]	—	—	✔	✔	—	—	—	—	—
	Set Picture Control	—	—	✔	✔	—	—	—	—	—
	Auto distortion control	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Color space	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Active D-Lighting	— [3]	— [3]	✔ [2]	✔ [2]	— [3]	— [3]	— [3]	— [3]	—
	Long exp. NR	✔	✔	✔	✔	✔	✔	✔	✔	✔
	High ISO NR	✔	✔	✔	✔	✔	✔	✔	✔	✔
	ISO sensitivity settings [2]	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Multiple exposure [2]	—	—	✔	✔	—	—	—	—	—
	Movie settings	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Interval timer shooting	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Remote control mode	✔	✔	✔	✔	✔	✔	✔	✔	✔
Other settings [2]	AF mode (viewfinder)	✔ [4]	✔ [4]	✔	✔	✔ [4]	✔ [4]	✔ [4]	✔ [4]	✔ [4]
	AF-area mode (viewfinder)	✔ [4]	✔ [4]	✔	✔	✔ [4]	✔ [4]	✔ [4]	✔ [4]	✔ [4]
	AF mode (Live view/movie)	✔ [4]	✔ [4]	✔	✔	✔ [4]	✔ [4]	✔ [4]	✔ [4]	✔ [4]
	AF-area mode (Live view/movie)	✔ [4]	✔ [4]	✔	✔	✔ [4]	✔ [4]	✔ [4]	✔ [4]	✔ [4]
	AE-L/AF-L button hold	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Flexible program	—	—	✔	—	—	—	—	—	—
	Metering	—	—	✔	✔	—	—	—	—	—
	Exposure compensation	—	—	✔	✔	—	—	—	—	—
	Bracketing	—	—	✔	✔	—	—	—	—	—
	Flash mode	✔ [4]	—	✔	✔	✔ [4]	—	✔ [4]	—	—
	Flash compensation	—	—	✔	✔	—	—	—	—	—
	FV lock	✔	—	✔	✔	✔	—	✔	—	—

		AUTO		P	S, A, M					
Custom Settings[5]	a1: AF-C priority selection	✔	✔	✔	✔	✔	✔	✔	✔	✔
	a2: AF-S priority selection	✔	✔	✔	✔	✔	✔	✔	✔	✔
	a3: Focus tracking with lock-on	✔	✔	✔	✔	✔	✔	✔	✔	✔
	a4: AF point illumination	✔	✔	✔	✔	✔	✔	✔	✔	✔
	a5: Focus point wrap-around	✔	✔	✔	✔	✔	✔	✔	✔	✔
	a6: Number of focus points	✔	✔	✔	✔	✔	✔	✔	✔	✔
	a7: Built-in AF-assist illuminator	✔	✔	✔	✔	✔	—	—	✔	✔
	a8: Live view/movie AF[2]	✔[4]	✔[4]	✔	✔	✔[4]	✔[4]	✔[4]	✔[4]	✔[4]
	b1: ISO sensitivity step value	✔	✔	✔	✔	✔	✔	✔	✔	✔
	b2: EV steps for exposure cntrl.	✔	✔	✔	✔	✔	✔	✔	✔	✔
	b3: Easy exposure compensation	—	—	✔	✔	—	—	—	—	—
	b4: Center-weighted area	—	—	✔	✔	—	—	—	—	—
	b5: Fine tune optimal exposure	✔	✔	✔	✔	✔	✔	✔	✔	✔
	c1: Shutter-release button AE-L	✔	✔	✔	✔	✔	✔	✔	✔	✔
	c2: Auto meter-off delay	✔	✔	✔	✔	✔	✔	✔	✔	✔
	c3: Self-timer	✔	✔	✔	✔	✔	✔	✔	✔	✔
	c4: Monitor off delay	✔	✔	✔	✔	✔	✔	✔	✔	✔
	c5: Remote on duration	✔	✔	✔	✔	✔	✔	✔	✔	✔
	d1: Beep	✔	✔	✔	✔	✔	✔	✔	✔	✔
	d2: Viewfinder grid display	✔	✔	✔	✔	✔	✔	✔	✔	✔
	d3: ISO display and adjustment	✔	✔	✔	✔	✔	✔	✔	✔	✔
	d4: Viewfinder warning display	✔	✔	✔	✔	✔	✔	✔	✔	✔
	d5: Screen tips	✔	✔	✔	✔	✔	✔	✔	✔	✔
	d6: CL mode shooting speed	✔	✔	✔	✔	✔	✔	✔	✔	✔
	d7: Max. continuous release	✔	✔	✔	✔	✔	✔	✔	✔	✔
	d8: File number sequence	✔	✔	✔	✔	✔	✔	✔	✔	✔
	d9: Information display	✔	✔	✔	✔	✔	✔	✔	✔	✔
	d10: LCD illumination	✔	✔	✔	✔	✔	✔	✔	✔	✔
	d11: Exposure delay mode	✔	✔	✔	✔	✔	✔	✔	✔	✔
	d12: Flash warning	—	—	✔	✔	—	—	—	—	—
	d13: MB-D11 battery type	✔	✔	✔	✔	✔	✔	✔	✔	✔
	d14: Battery order	✔	✔	✔	✔	✔	✔	✔	✔	✔

		AUTO		P	S, A, M					
Custom Settings[5]	e1: Flash sync speed	✔	✔	✔	✔	✔	✔	✔	✔	✔
	e2: Flash shutter speed	—	—	✔	✔	—	—	—	—	—
	e3: Flash cntrl for built-in flash	—	—	✔	✔	—	—	—	—	—
	e4: Modeling flash	—	—	✔	✔	—	—	—	—	—
	e5: Auto bracketing set	—	—	✔	✔	—	—	—	—	—
	e6: Bracketing order	—	—	✔	✔	—	—	—	—	—
	f1: ⁘ switch	✔	✔	✔	✔	✔	✔	✔	✔	✔
	f2: OK button (shooting mode)	✔	✔	✔	✔	✔	✔	✔	✔	✔
	f3: Assign Fn button	✔	✔	✔	✔	✔	✔	✔	✔	✔
	f4: Assign preview button	✔	✔	✔	✔	✔	✔	✔	✔	✔
	f5: Assign AE-L/AF-L button	✔	✔	✔	✔	✔	✔	✔	✔	✔
	f6: Customize command dials	✔	✔	✔	✔	✔	✔	✔	✔	✔
	f7: Release button to use dial	✔	✔	✔	✔	✔	✔	✔	✔	✔
	f8: Slot empty release lock	✔	✔	✔	✔	✔	✔	✔	✔	✔
	f9: Reverse indicators	✔	✔	✔	✔	✔	✔	✔	✔	✔
	f10: Assign MB-D11 Fn button	✔	✔	✔	✔	✔	✔	✔	✔	✔

1 Reset with **Reset shooting menu** (🕮 202).
2 Reset with two-button reset (🕮 151).
3 Fixed at **Auto**.
4 Reset when mode dial is rotated to new setting.
5 Reset with **Reset custom settings** (🕮 207).

Defaults

The default settings for the options in the camera menus are listed below. For information on two-button resets, see page 151.

■■ *Playback Menu Defaults*

Option	Default	🕮
Playback folder	D7000	195
Image review	Off	200
After delete	Show next	200
Rotate tall	Off	200
Slide show		
Frame interval	2 s	201

■■ *Shooting Menu Defaults* [1]

Option	Default	🕮
File naming	DSC	204
Role played by card in Slot 2	Overflow	89
Image quality	JPEG normal	85
Image size	Large	88
JPEG compression	Size priority	87
NEF (RAW) recording		
Type	Lossless compressed	87
NEF (RAW) bit depth	14-bit	
White balance	Auto > Normal	117
Fine tuning	Off	119
Choose color temp.	5000 K	122
Set Picture Control	Standard	131
Auto distortion control	Off	205
Color space	sRGB	141
Active D-Lighting	Off	139
Long exp. NR	Off	205
High ISO NR	Normal	205
ISO sensitivity settings		
ISO sensitivity		
P, S, A, M	100	101
Other modes	Auto	
Auto ISO sensitivity control	Off	103
Multiple exposure	Reset [2]	152
Movie settings		
Movie quality	1920×1080; 24 fps; high quality	60
Microphone	Auto sensitivity (A)	
Destination	Slot 1	
Manual movie settings	Off	
Interval timer shooting	Reset [3]	155
Remote control mode	Delayed remote	80

1 Default settings restored with **Reset shooting menu** (🕮 202).
2 **Reset shooting menu** can not be selected while shooting is in progress.
3 Shooting ends when reset is performed.

■■ *Custom Settings Menu Defaults* *

	Option	Default	🕮
a1	AF-C priority selection	Release	208
a2	AF-S priority selection	Focus	208
a3	Focus tracking with lock-on	3 (Normal)	209
a4	AF point illumination	Auto	209
a5	Focus point wrap-around	No wrap	209
a6	Number of focus points	39 points	210
a7	Built-in AF-assist illuminator	On	210
a8	Live view/movie AF		
	Autofocus mode	Single-servo AF	211
	AF-area mode		
	🏃, 🚗, 🐅, 🏔, Hi, Lo	Wide-area AF	211
	🌷, 🍴	Normal-area AF	
	Other shooting modes	Face-priority AF	
b1	ISO sensitivity step value	1/3 step	211
b2	EV steps for exposure cntrl.	1/3 step	211
b3	Easy exposure compensation	Off	212
b4	Center-weighted area	ø 8 mm	213
b5	Fine tune optimal exposure		
	Matrix metering	0	213
	Center-weighted metering	0	
	Spot metering	0	
c1	Shutter-release button AE-L	Off	213
c2	Auto meter-off delay	6 s	214
c3	Self-timer		
	Self-timer delay	10 s	214
	Number of shots	0	
	Interval between shots	0.5 s	
c4	Monitor off delay		
	Playback	10 s	215
	Menus	20 s	
	Information display	10 s	
	Image review	4 s	
	Live view	10 min	
c5	Remote on duration	1 min	215

	Option	Default	🕮
d1	Beep		
	Volume	Off	215
	Pitch	High	
d2	Viewfinder grid display	Off	216
d3	ISO display and adjustment	Show frame count	216
d4	Viewfinder warning display	On	216
d5	Screen tips	On	216
d6	CL mode shooting speed	3 fps	217
d7	Max. continuous release	100	217
d8	File number sequence	On	218
d9	Information display	Auto	219
d10	LCD illumination	Off	219
d11	Exposure delay mode	Off	219
d12	Flash warning	On	219
d13	MB-D11 battery type	LR6 (AA alkaline)	220
d14	Battery order	Use MB-D11 batteries first	221
e1	Flash sync speed	1/250 s	222
e2	Flash shutter speed	1/60 s	223
e3	Flash cntrl for built-in flash/ Optional flash	TTL	223
e4	Modeling flash	On	228
e5	Auto bracketing set	AE & flash	229
e6	Bracketing order	MTR > under > over	229
f1	☀ switch	LCD backlight (☀)	229
f2	OK button (shooting mode)	Select center focus point	229
f3	Assign Fn button	FV lock	230
f4	Assign preview button	Preview	232
f5	Assign AE-L/AF-L button	AE/AF lock	232
f6	Customize command dials		
	Reverse rotation	No	233
	Change main/sub	Off	
	Aperture setting	Sub-command dial	
	Menus and playback	Off	
f7	Release button to use dial	No	234
f8	Slot empty release lock	Enable release	234
f9	Reverse indicators	+◂0▸−	234
f10	Assign MB-D11 Fn button	AE/AF lock	235

* Default settings restored with **Reset custom settings** (🕮 207).

■■ *Setup Menu Defaults*

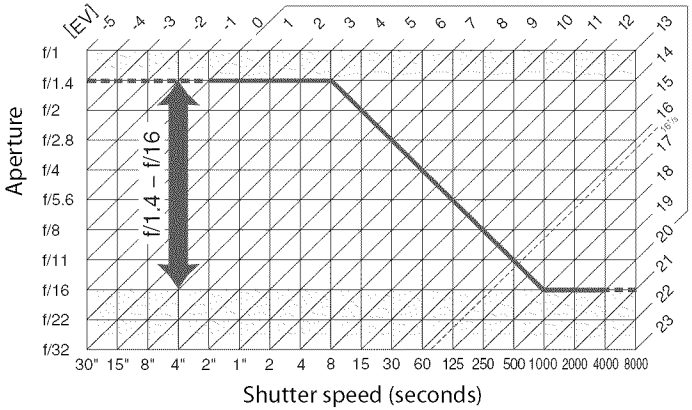
Option	Default	🕮
Save user settings		
U1	Shooting mode defaults to **P**	75
U2		
LCD brightness	0	237
Clean image sensor		
Clean at startup/shutdown	Clean at startup & shutdown	284
HDMI		
Output resolution	Auto	194
Device control	On	

Option	Default	🕮
Time zone and date		
Daylight saving time	Off	237
Auto image rotation	On	239
GPS		
Auto meter-off	Enable	162
Use GPS to set camera clock	Yes	
Eye-Fi upload	Enable	247

Exposure Program (Mode P)

The exposure program for mode **P** is shown in the following graph:

——— ISO 100; lens with maximum aperture of f/1.4 and minimum aperture of f/16 (e.g., AF-S NIKKOR 50mm f/1.4G)



The maximum and minimum values for EV vary with ISO sensitivity; the above graph assumes an ISO sensitivity of ISO 100 equivalent. When matrix metering is used, values over $16^{1}/_{3}$ EV are reduced to $16^{1}/_{3}$ EV.

Troubleshooting

If the camera fails to function as expected, check the list of common problems below before consulting your retailer or Nikon representative.

Display

Viewfinder is out of focus: Adjust viewfinder focus or use optional eyepiece correction lenses (🕮 34, 281).

Viewfinder is dark: Insert a fully-charged battery (🕮 21, 35).

Displays turn off without warning: Choose longer delays for Custom Setting c2 (**Auto meter-off delay**) or c4 (**Monitor off delay**) (🕮 214, 215).

Camera does not respond to controls: See "A Note on Electronically-Controlled Cameras," below.

Control panel and viewfinder displays are unresponsive and dim: The response times and brightness of these displays vary with temperature.

Fine lines are visible around active focus point or display turns red when focus point is highlighted: These phenomena are normal for this type of viewfinder and do not indicate a malfunction.

> **A Note on Electronically-Controlled Cameras**
> In extremely rare instances, unusual characters may appear in the control panel and the camera may stop functioning. In most cases, this phenomenon is caused by a strong external static charge. Turn the camera off, remove and replace the battery, taking care to avoid burns, and turn the camera on again, or, if you are using an AC adapter (available separately), disconnect and reconnect the adapter and turn the camera on again. If the problem persists, contact your retailer or Nikon-authorized service representative.

Shooting (All Modes)

Camera takes time to turn on: Delete files or folders.

Shutter-release disabled:
- Memory card is locked, full, or not inserted (📖 29, 32).
- Built-in flash is charging (📖 39).
- Camera is not in focus (📖 38).
- CPU lens with aperture ring attached but aperture not locked at highest f-number. If **FE E** is displayed in control panel, select **Aperture ring** for Custom Setting f6 (**Customize command dials**) > **Aperture setting** to use lens aperture ring to adjust aperture (📖 233).
- Non-CPU lens is attached but camera is not in mode **A** or **M** (📖 270).

No photo taken when remote control shutter-release button is pressed:
- Replace battery in remote control (📖 281).
- Choose remote control release mode (📖 80).
- Flash is charging (📖 82).
- Time selected for Custom Setting c5 (**Remote on duration**, 📖 215) has elapsed: press camera shutter-release button halfway.
- Bright light is interfering with remote.

Photos are out of focus:
- Rotate focus-mode selector to **AF** (📖 91).
- Camera unable to focus using autofocus: use manual focus or focus lock (📖 97, 99).

Focus does not lock when shutter-release button is pressed halfway: Use **AE-L/AF-L** button to lock focus when **AF-C** is selected for focus mode or when photographing moving subjects in **AF-A** mode.

Can not select focus point:
- Unlock focus selector lock (📖 96).
- [▪] (auto-area AF) or [☺] (face-priority AF) selected for AF-area mode: choose another mode.
- Camera is in playback mode (📖 163) or menus are in use (📖 195).
- Press shutter-release button halfway to turn monitor off or activate exposure meters (📖 39).

Subject-tracking AF not available: Select a non-monochrome Picture Control (📖 131).

Can not select AF-area mode: Manual focus selected (📖 55, 99).

Only one shot taken each time shutter-release button is pressed in continuous release mode: Lower built-in flash (📖 143).

Image size can not be changed: **Image quality** set to **NEF (RAW)** (📖 85).

Camera is slow to record photos: Turn long exposure noise reduction off (📖 205).

Noise (randomly-spaced bright pixels, fog, or lines) appear in photos:
- Choose lower ISO sensitivity or use high ISO noise reduction (📖 101, 205).
- Shutter speed is slower than 8 s: use long exposure noise reduction (📖 205).

AF-assist illuminator does not light:

- AF-assist lamp does not light if **AF-C** is selected for autofocus mode (🕮 91) or if continuous-servo autofocus is selected when the camera is in **AF-A** mode. Choose **AF-S**. If an option other than [▪] (auto-area AF) is selected for AF-area mode, select center focus point (🕮 94, 96).
- The camera is currently in live view or a movie is being recorded.
- **Off** selected for Custom Setting a7 (**Built-in AF-assist illuminator**) (🕮 210).
- Illuminator has turned off automatically. Illuminator may become hot with continued use; wait for lamp to cool down.

Beep does not sound:

- **Off** is selected for Custom Setting d1 (**Beep**; 🕮 215) > **Volume**.
- Camera is in quiet shutter-release mode (🕮 77) or movie is being recorded (🕮 57).
- Focus-mode selector is set to **M** (🕮 99) or **AF-C** is selected for autofocus mode (🕮 91).
- **Release** is selected for Custom Setting a2 (**AF-S priority selection**; 🕮 208).

Smudges appear in photographs: Clean front and rear lens elements. If problem persists, perform image sensor cleaning (🕮 284).

Sound is not recorded with movies: **Microphone off** is selected for **Movie settings** > **Microphone**.

The brightness of the image in the monitor differs from the exposure of photographs taken in live view:

- Center-weighted or spot metering is selected (🕮 105).
- The camera is in mode **M**.
- The subject is too bright or too dark.
- Active D-Lighting is in effect (🕮 139).
- The photograph is a long time-exposure (🕮 73).
- The flash is used (🕮 143).

Flicker or banding appears during live view or movie recording: Choose an option for **Flicker reduction** that matches the frequency of the local AC power supply (🕮 237).

Bright bands appear during live view or movie recording: A flash or other light source with brief duration was used during live view or movie recording.

Menu item can not be selected: Some options are not available in all modes.

Shooting (P, S, A, M)

Shutter-release disabled:
- Non-CPU lens is attached: rotate camera mode dial to **A** or **M** (📖 270).
- Mode dial rotated to **S** after shutter speed of **Bulb** selected in mode **M**: choose new shutter speed (📖 69).

Camera is slow to respond to shutter-release button: Select **Off** for Custom Setting d11 (**Exposure delay mode**; 📖 219).

Full range of shutter speeds not available:
- Flash in use. Flash sync speed can be selected using Custom Setting e1 (**Flash sync speed**); when using optional SB-900, SB-800, SB-700, SB-600, or SB-R200 flash unit, choose **1/320 s (Auto FP)** or **1/250 s (Auto FP)** for full range of shutter speeds (📖 222).
- When **On** is selected for **Movie options** > **Manual movie settings** in the shooting menu, shutter speed can be set to values between $^1/_{8000}$ s and $^1/_{30}$ s (📖 60).

Colors are unnatural:
- Adjust white balance to match light source (📖 117).
- Adjust **Set Picture Control** settings (📖 131).

Can not measure white balance: Subject is too dark or too bright (📖 125).

Image can not be selected as source for preset white balance: Image was not created with D7000 (📖 126).

White balance bracketing unavailable:
- NEF (RAW) or NEF+JPEG image quality option selected for image quality (📖 85).
- Multiple exposure mode is in effect (📖 154).

Effects of Picture Control differ from image to image: **A** (auto) is selected for sharpening, contrast, or saturation. For consistent results over a series of photos, choose another setting (📖 134).

Metering can not be changed: Autoexposure lock is in effect (📖 106).

Exposure compensation can not be used: Choose mode **P**, **S**, or **A** (📖 68, 69, 70).

Noise (reddish areas or other artifacts) appears in long time-exposures: Enable long exposure noise reduction (📖 205).

Playback

Flashing areas, shooting data, or graphs appear on images: Press ▲ or ▼ to choose photo information displayed, or change settings for **Display mode** (🕮 165, 197).

NEF (RAW) image is not played back: Photo was taken at image quality of NEF + JPEG (🕮 85).

Can not view pictures recorded with other cameras: Pictures recorded with other makes of camera may not be displayed correctly.

Message is displayed stating that no images are available for playback: Select **All** for **Playback folder** (🕮 195).

"Tall" (portrait) orientation photos are displayed in "wide" (landscape) orientation:
- Select **On** for **Rotate tall** (🕮 200).
- Photo was taken with **Off** selected for **Auto image rotation** (🕮 239).
- Camera was pointed up or down when photo was taken (🕮 239).
- Photo is displayed in image review (🕮 200).

Can not delete picture:
- Picture is protected: remove protection (🕮 174).
- Memory card is locked (🕮 33).

Can not retouch picture: Photo can not be further edited with this camera (🕮 249).

Can not change print order:
- Memory card is full: delete pictures (🕮 36, 175).
- Memory card is locked (🕮 33).

Can not select photo for printing: Photo is in NEF (RAW) format. Create JPEG copy using **NEF (RAW) processing** or transfer to computer and print using ViewNX 2 (supplied) or Capture NX 2 (available separately).

Picture is not displayed on TV:
- Choose correct video mode (🕮 237) or output resolution (🕮 194).
- A/V (🕮 191) or HDMI (🕮 193) cable is not correctly connected.

Camera does not respond to remote control for HDMI-CEC television:
- Select **On** for **HDMI** > **Device control** in the setup menu (🕮 194).
- Adjust HDMI-CEC settings for the television as described in documentation provided with the device.

Can not transfer photos to computer: OS not compatible with camera or transfer software. Use card reader to copy photos to computer (🕮 179).

NEF (RAW) photos not displayed in Capture NX 2: Update to latest version (🕮 281).

Image Dust Off option in Capture NX 2 does not have desired effect: Image sensor cleaning changes the position of dust on the low-pass filter. Dust off reference data recorded before image sensor cleaning is performed can not be used with photographs taken after image sensor cleaning is performed. Dust off reference data recorded after image sensor cleaning is performed can not be used with photographs taken before image sensor cleaning is performed (🕮 240).

Computer displays NEF (RAW) images differently from camera: Third-party software does not display effects of Picture Controls or Active D-Lighting. Use ViewNX 2 (supplied) or optional Nikon software such as Capture NX 2 (available separately).

Miscellaneous

Date of recording is not correct: Set camera clock (🕮 27, 237).

Menu item can not be selected: Some options are not available at certain combinations of settings or when no memory card is inserted. Note that **Battery info** option is not available when camera is powered by an optional EP-5B power connector and EH-5a AC adapter (🕮 242).

Error Messages

This section lists the indicators and error messages that appear in the viewfinder, control panel, and monitor.

Indicator		Problem	Solution	🕮
Control panel	Viewfinder			
FE E (blinks)		Lens aperture ring is not set to minimum aperture.	Set ring to minimum aperture (largest f-number).	26
		Low battery.	Ready a fully-charged spare battery.	21
(blinks)	(blinks)	• Battery exhausted. • Battery can not be used. • An extremely exhausted rechargeable Li-ion battery or a third-party battery is inserted either in the camera or in the optional MB-D11 battery pack.	• Recharge or replace battery. • Contact Nikon-authorized service representative. • Replace the battery, or recharge the battery if the rechargeable Li-ion battery is exhausted.	xvii, 21, 24
CLOCK (blinks)	—	Camera clock is not set.	Set camera clock.	27, 237
AF		No lens attached, or non-CPU lens attached without specifying maximum aperture. Aperture shown in stops from maximum aperture.	Aperture value will be displayed if maximum aperture is specified.	159
—	● (blinks)	Camera unable to focus using autofocus.	Change composition or focus manually.	93, 99
F- - (blinks)		• No lens attached.	• Attach non-IX Nikkor lens. If a CPU lens is attached, remove and reattach the lens.	25, 269
		• Non-CPU lens attached.	• Select mode **A** or **M**.	270
H i		Subject too bright; photo will be overexposed.	• Use a lower ISO sensitivity • In shooting mode: **P** Use optional ND filter **S** Increase shutter speed **A** Choose a smaller aperture (larger f-number)	101 280 69 70

Indicator		Problem	Solution	🕮
Control panel	Viewfinder			
Lo		Subject too dark; photo will be underexposed.	• Use a higher ISO sensitivity • In shooting mode: **P** Use flash **S** Lower shutter speed **A** Choose a larger aperture (smaller f-number)	101 143 69 70
bulb (blinks)		bulb selected in mode **S**.	Change shutter speed or select mode **M**.	69, 71
- - (blinks)		- - selected in mode **S**.	Change shutter speed or select mode **M**.	69, 71
(blinks)	ϟ (blinks)	Optional flash unit that does not support i-TTL flash control attached and set to TTL.	Change flash mode setting on optional flash unit.	278
—	ϟ (blinks)	If indicator blinks for 3s after flash fires, photo may be underexposed.	Check photo in monitor; if underexposed, adjust settings and try again.	163
FuLL (blinks)	FuL (blinks)	Memory insufficient to record further photos at current settings, or camera has run out of file or folder numbers.	• Reduce quality or size. • Delete photographs. • Insert new memory card.	85, 88 175 29
Err (blinks)		Camera malfunction.	Release shutter. If error persists or appears frequently, consult Nikon-authorized service representative.	—

Indicator		Problem	Solution	🕮
Monitor	**Control panel**			
No memory card.	[- E -]	Camera cannot detect memory card.	Turn camera off and confirm that card is correctly inserted.	29
This memory card cannot be used. Card may be damaged. Insert another card.	CArd, Err (blinks)	• Error accessing memory card.	• Use Nikon-approved card. • Check that contacts are clean. If card is damaged, contact retailer or Nikon representative.	319 —
		• Unable to create new folder.	• Delete files or insert new memory card.	29, 175
📡	CArd, Err (blinks)	Camera can not control Eye-Fi card.	• Check that Eye-Fi card firmware is up to date. • Copy files on Eye-Fi card to a computer or other device and format card, or insert new card.	247 29, 32, 179
Memory card is locked. Slide lock to "write" position.	CArd, - - - (blinks)	Memory card is locked (write protected).	Slide card write-protect switch to "write" position.	33
Not available if Eye-Fi card is locked.	CArd, Err (blinks)	Eye-Fi card is locked (write protected).		
This card is not formatted. Format the card.	[For] (blinks)	Memory card has not been formatted for use in camera.	Format memory card or insert new memory card.	29, 32
Failed to update flash unit firmware. Flash cannot be used. Contact a Nikon-authorized service representative.	—	Firmware for flash unit mounted on camera was not updated correctly.	Contact a Nikon-authorized service representative.	—

Indicator		Problem	Solution	🕮
Monitor	Control panel			
Folder contains no images.	—	No images on memory card or in folder(s) selected for playback.	Select folder containing images from **Playback folder** menu or insert different memory card.	29, 195
All images are hidden.	—	All photos in current folder are hidden.	No images can be played back until another folder has been selected or **Hide image** used to allow at least one image to be displayed.	196
Cannot display this file.	—	File has been created or modified using a computer or different make of camera, or file is corrupt.	File can not be played back on camera.	—
Cannot select this file.	—	Selected image can not be retouched.	Images created with other devices can not be retouched.	249
This movie cannot be edited.	—	The selected movie can not be edited.	• Movies created with other devices can not be edited. • Movies must be at least two seconds long.	— 65
Check printer.	—	Printer error.	Check printer. To resume, select **Continue** (if available).	182 *
Check paper.	—	Paper in printer is not of selected size.	Insert paper of correct size and select **Continue**.	182 *
Paper jam.	—	Paper is jammed in printer.	Clear jam and select **Continue**.	182 *
Out of paper.	—	Printer is out of paper.	Insert paper of selected size and select **Continue**.	182 *
Check ink supply.	—	Ink error.	Check ink. To resume, select **Continue**.	182 *
Out of ink.	—	Printer is out of ink.	Replace ink and select **Continue**.	182 *

* See printer manual for more information.

Specifications

■■ *Nikon D7000 Digital Camera*

Type	
Type	Single-lens reflex digital camera
Lens mount	Nikon F mount (with AF coupling and AF contacts)
Effective angle of view	Approx. 1.5 × lens focal length (Nikon DX format)
Effective pixels	
Effective pixels	16.2 million
Image sensor	
Image sensor	23.6 × 15.6 mm CMOS sensor
Total pixels	16.9 million
Dust-reduction System	Image sensor cleaning, Image Dust Off reference data (optional Capture NX 2 software required)
Storage	
Image size (pixels)	• 4,928 × 3,264 (L) • 3,696 × 2,448 (M) • 2,464 × 1,632 (S)
File format	• **NEF (RAW)**: 12 or 14 bit, lossless compressed or compressed • **JPEG**: JPEG-Baseline compliant with fine (approx. 1 : 4), normal (approx. 1 : 8), or basic (approx. 1 : 16) compression (**Size priority**); **Optimal quality** compression available • **NEF (RAW)+JPEG**: Single photograph recorded in both NEF (RAW) and JPEG formats
Picture Control System	Standard, Neutral, Vivid, Monochrome, Portrait, Landscape; selected Picture Control can be modified; storage for custom Picture Controls
Media	SD (Secure Digital), SDHC, and SDXC memory cards
Double slot	Slot 2 can be used for overflow or backup storage or for separate storage of copies created using NEF+JPEG; pictures can be copied between cards.
File system	DCF (**D**esign Rule for **C**amera **F**ile System) 2.0, DPOF (**D**igital **P**rint **O**rder **F**ormat), Exif 2.3 (**Ex**changeable **I**mage **F**ile Format for Digital Still Cameras), PictBridge
Viewfinder	
Viewfinder	Eye-level pentaprism single-lens reflex viewfinder
Frame coverage	Approx. 100% horizontal and 100% vertical
Magnification	Approx. 0.94 × (50 mm f/1.4 lens at infinity, −1.0 m^{-1})
Eyepoint	19.5 mm (−1.0 m^{-1})
Diopter adjustment	−3 – +1 m^{-1}
Focusing screen	Type B BriteView Clear Matte Mark II screen with AF area brackets (framing grid can be displayed)
Reflex mirror	Quick return
Depth-of-field preview	Pressing depth-of-field preview button stops lens aperture down to value selected by user (**A** and **M** modes) or by camera (other modes)
Lens aperture	Instant return, electronically controlled

Lens	
Compatible lenses	• **DX AF NIKKOR**: All functions supported • **Type G or D AF NIKKOR**: All functions supported (PC Micro-NIKKOR does not support some functions). IX NIKKOR lenses not supported. • **Other AF NIKKOR**: All functions supported except 3D color matrix metering II. Lenses for F3AF not supported. • **AI-P NIKKOR**: All functions supported except 3D color matrix metering II • **Non-CPU**: Can be used in modes **A** and **M**; color matrix metering and aperture value display supported if user provides lens data (AI lenses only) Electronic rangefinder can be used if maximum aperture is f/5.6 or faster.
Shutter	
Type	Electronically-controlled vertical-travel focal-plane shutter
Speed	$^1/_{8000}$ – 30 s in steps of $^1/_3$ or $^1/_2$ EV, bulb, time (requires optional ML-L3 remote control), X250
Flash sync speed	X=$^1/_{250}$ s; synchronizes with shutter at $^1/_{320}$ s or slower (flash range drops at speeds between $^1/_{250}$ and $^1/_{320}$ s)
Release	
Release mode	**S** (single frame), **CL** (continuous low speed), **CH** (continuous high speed), **Q** (quiet shutter-release), ⏲ (self-timer), ▪▫ (remote control), **MUP** (mirror up)
Frame advance rate (CIPA guidelines)	1–5 fps (**CL**) or 6 fps (**CH**)
Self-timer	2 s, 5 s, 10 s, 20 s; 1–9 exposures at intervals of 0.5, 1, 2, or 3 s
Remote release modes	Delayed remote, quick-response remote, remote mirror-up
Exposure	
Metering	TTL exposure metering using 2,016-pixel RGB sensor
Metering method	• **Matrix**: 3D color matrix metering II (type G and D lenses); color matrix metering II (other CPU lenses); color matrix metering available with non-CPU lenses if user provides lens data • **Center-weighted**: Weight of 75% given to 8 mm circle in center of frame. Diameter of circle can be changed to 6, 10, or 13 mm, or weighting can be based on average of entire frame (fixed at 8 mm when non-CPU lens is used) • **Spot**: Meters 3.5 mm circle (about 2.5% of frame) centered on selected focus point (on center focus point when non-CPU lens is used)
Range (ISO 100, f/1.4 lens, 20 °C/68 °F)	• **Matrix or center-weighted metering**: 0–20 EV • **Spot metering**: 2–20 EV
Exposure meter coupling	Combined CPU and AI

Exposure	
Mode	Auto (auto; auto (flash off)); scene (portrait; landscape; child; sports; close up; night portrait; night landscape; party/indoor; beach/snow; sunset; dusk/dawn; pet portrait; candlelight; blossom; autumn colors; food; silhouette; high key; low key); programmed auto with flexible program (**P**); shutter-priority auto (**S**); aperture-priority auto (**A**); manual (**M**); **U1** (user settings 1); **U2** (user settings 2)
Exposure compensation	–5 – +5 EV in increments of 1/3 or 1/2 EV
Exposure bracketing	2–3 frames in steps of 1/3, 1/2, 2/3, 1, or 2 EV
Flash bracketing	2–3 frames in steps of 1/3, 1/2, 2/3, 1, or 2 EV
White balance bracketing	2–3 frames in steps of 1, 2, or 3
ADL bracketing	2 frames using selected value for one frame or 3 frames using preset values for all frames
Exposure lock	Luminosity locked at detected value with **AE-L/AF-L** button
ISO sensitivity (Recommended Exposure Index)	ISO 100 – 6400 in steps of 1/3 or 1/2 EV. Can also be set to approx. 0.3, 0.5, 0.7, 1, or 2 EV (ISO 25600 equivalent) above ISO 6400; auto ISO sensitivity control available
Active D-Lighting	**Auto**, **Extra high**, **High**, **Normal**, **Low**, **Off**
Focus	
Autofocus	Nikon Multi-CAM 4800DX autofocus sensor module with TTL phase detection, fine-tuning, 39 focus points (including 9 cross-type sensors), and AF-assist illuminator (range approx. 0.5–3 m/1 ft. 8 in.–9 ft. 10 in.)
Detection range	–1 – +19 EV (ISO 100, 20 °C/68 °F)
Lens servo	• **Autofocus (AF)**: Single-servo AF (**AF-S**); continuous-servo AF (**AF-C**); auto AF-S/AF-C selection (**AF-A**); predictive focus tracking activated automatically according to subject status • **Manual focus (M)**: Electronic rangefinder can be used
Focus point	Can be selected from 39 or 11 focus points
AF-area mode	Single-point AF; 9-, 21-, or 39-point dynamic-area AF, 3D-tracking, auto-area AF
Focus lock	Focus can be locked by pressing shutter-release button halfway (single-servo AF) or by pressing **AE-L/AF-L** button

Flash	
Built-in flash	AUTO, , , , , , : Auto flash with auto pop-up **P**, **S**, **A**, **M**, : Manual pop-up with button release
Guide Number	Approx. 12/39, 12/39 with manual flash (m/ft, ISO 100, 20 °C/68 °F)
Flash control	• **TTL**: i-TTL balanced fill-flash and standard i-TTL flash for digital SLR using 2,016-pixel RGB sensor are available with built-in flash and SB-900, SB-800, SB-700, SB-600, or SB-400 (i-TTL balanced fill-flash is available when matrix or center-weighted metering is selected) • **Auto aperture**: Available with SB-900/SB-800 and CPU lens • **Non-TTL auto**: Supported flash units include SB-900, SB-800, SB-28, SB-27, and SB-22S • **Distance-priority manual**: Available with SB-900, SB-800, SB-700
Flash mode	• AUTO, , , , , : Auto, auto with red-eye reduction, off; fill-flash and red-eye reduction available with optional flash units • : Auto slow sync, auto slow sync with red-eye reduction, off; slow sync and slow sync with red-eye reduction available with optional flash units • , , , , , , , , , , , , : Fill-flash and red-eye reduction available with optional flash units • : Fill-flash • **P**, **A**: Fill-flash, rear-curtain with slow sync, slow sync, slow sync with red-eye reduction, red-eye reduction • **S**, **M**: Fill-flash, rear-curtain sync, red-eye reduction
Flash compensation	–3 – +1 EV in increments of 1/3 or 1/2 EV
Flash-ready indicator	Lights when built-in flash or optional flash unit such as SB-900, SB-800, SB-700, SB-600, SB-400, SB-80DX, SB-28DX, or SB-50DX is fully charged; blinks for 3 s after flash is fired at full output
Accessory shoe	ISO 518 hot-shoe with sync and data contacts and safety lock
Nikon Creative Lighting System (CLS)	Advanced Wireless Lighting supported with built-in flash, SB-900, SB-800, SB-700, or SU-800 as commander and SB-900, SB-800, SB-700, SB-600, or SB-R200 as remotes; Auto FP high-speed sync and modeling illumination supported with all CLS-compatible flash units except SB-400; Flash Color Information Communication and FV lock supported with all CLS-compatible flash units
Sync terminal	AS-15 sync terminal adapter (available separately)
White balance	
White balance	Auto (2 types), incandescent, fluorescent (7 types), direct sunlight, flash, cloudy, shade, preset manual (up to 5 values can be stored), choose color temperature (2500 K–10000 K), all with fine tuning

Live view		
Lens servo		• **Autofocus (AF)**: Single-servo AF (**AF-S**); full-time servo AF (**AF-F**) • **Manual focus (M)**
AF-area mode		Face-priority AF, wide-area AF, normal-area AF, subject-tracking AF
Autofocus		Contrast-detect AF anywhere in frame (camera selects focus point automatically when face-priority AF or subject-tracking AF is selected)
Movie		
Metering		TTL exposure metering using main image sensor
Metering method		Matrix
Frame size (pixels) and frame rate	**NTSC**	• 1,920 × 1,080 (24p); 24 (23.976) fps • 1,280 × 720 (30p); 30 (29.97) fps • 1,280 × 720 (24p); 24 (23.976) fps • 640 × 424 (30p); 30 (29.97) fps
	PAL	• 1,920 × 1,080 (24p); 24 (23.976) fps • 1,280 × 720 (25p); 25 fps • 1,280 × 720 (24p); 24 (23.976) fps • 640 × 424 (25p); 25 fps
		Choice of normal and high quality available.
Maximum length		Approx. 20 minutes
File format		MOV
Video compression		H.264/MPEG-4 Advanced Video Coding
Audio recording format		Linear PCM
Audio recording device		Built-in monaural or external stereo microphone; sensitivity adjustable
Monitor		
Monitor		7.5-cm/3-in., 921k-dot (VGA), low-temperature polysilicon TFT LCD with 170 ° viewing angle, 100% frame coverage, and brightness adjustment
Playback		
Playback		Full-frame and thumbnail (4, 9, or 72 images or calendar) playback with playback zoom, movie playback, slide show, highlights, histogram display, auto image rotation, and image comment (up to 36 characters)
Interface		
USB		Hi-Speed USB
Video output		NTSC, PAL; images can be displayed on external device while camera monitor is on
HDMI output		Type C mini-pin HDMI connector; camera monitor turns off when HDMI cable is connected
Accessory terminal		**Remote cord**: MC-DC2 (available separately) **GPS unit**: GP-1 (available separately)
Audio input		Stereo mini-pin jack (3.5 mm diameter)
Supported languages		
Supported languages		Arabic, Chinese (Simplified and Traditional), Czech, Danish, Dutch, English, Finnish, French, German, Indonesian, Italian, Japanese, Korean, Norwegian, Polish, Portuguese, Russian, Spanish, Swedish, Thai, Turkish

Power source	
Battery	One rechargeable Li-ion EN-EL15 battery
Battery pack	Optional MB-D11 multi-power battery pack with one rechargeable Nikon EN-EL15 Li-ion battery or six AA alkaline, NiMH, or lithium batteries
AC adapter	EH-5a AC adapter; requires EP-5B power connector (available separately)
Tripod socket	
Tripod socket	1/4 in. (ISO 1222)
Dimensions/weight	
Dimensions (W × H × D)	Approx. 132 × 105 × 77 mm (5.2 × 4.1 × 3 in.)
Weight	Approx. 690 g (1 lb. 8.3 oz.; camera body only); approx. 780 g (1 lb. 11.5 oz.) with battery and memory card but without body cap
Operating environment	
Temperature	0–40 °C (+32–104 °F)
Humidity	Less than 85% (no condensation)

- Unless otherwise stated, all figures are for a camera with a fully-charged battery operating at an ambient temperature of 20 °C (68 °F).
- Nikon reserves the right to change the specifications of the hardware and software described in this manual at any time and without prior notice. Nikon will not be held liable for damages that may result from any mistakes that this manual may contain.

MH-25 battery charger	
Rated input (in North America)	AC 120 V, 60 Hz, 0.2 A
Rated input (in other regions)	AC 100–240 V, 50/60 Hz, 0.23–0.12 A
Rated output	DC 8.4 V/1.2 A
Supported batteries	Nikon rechargeable Li-ion battery EN-EL15
Charging time	Approx. 2 hours 35 minutes at an ambient temperature of 25 °C (77 °F) when no charge remains
Operating temperature	0–40 °C (+32–104 °F)
Dimensions (W × H × D)	Approx. 82.5 × 28 × 65 mm (3.2 × 1.1 × 2.6 in.), excluding projections
Length of power cable	Approx. 1.8 m (6 ft.)
Weight	Approx. 110 g (3.9 oz.), excluding power cable and AC wall adapter
EN-EL15 rechargeable Li-ion battery	
Type	Rechargeable lithium-ion battery
Rated capacity	7.0 V/1900 mAh
Dimensions (W × H × D)	Approx. 40 × 56 × 20.5 mm (1.6 × 2.2 × 0.8 in.)
Weight	Approx. 88 g (3.1 oz.), excluding terminal cover
AF-S DX NIKKOR 18–105 mm f/3.5–5.6G ED VR lens	
Type	Type G AF-S DX NIKKOR zoom lens with built-in CPU and F mount for use exclusively with Nikon DX-format digital SLR cameras
Focal length	18–105 mm
Maximum aperture	f/3.5–5.6
Lens construction	15 elements in 11 groups (including 1 aspherical element and 1 ED glass element)
Angle of view	76 °–15 ° 20 ′
Focal length scale	Graduated in millimeters (18, 24, 35, 50, 70, 105)
Distance information	Output to camera
Zoom	Manual zoom using independent zoom ring
Focusing	Nikon Internal Focusing (IF) system with autofocus controlled by Silent Wave Motor; manual focus supported when A-M switch is set to **A** or **M**. Focus can be adjusted by rotating lens focus ring while focus is locked in single-servo autofocus. Do not use focus ring while camera is focusing.
Vibration reduction	Lens-shift method using **v**oice **c**oil **m**otors (VCMs)
Minimum focus distance	0.45 m (1.5 ft.) from focal plane mark (🕮 100) at all zoom positions
Diaphragm blades	7 (rounded diaphragm opening)
Diaphragm	Fully automatic
Aperture range	• **18 mm focal length**: f/3.5–22 • **105 mm focal length**: f/5.6–38
Metering	Full aperture
Filter-attachment size	67 mm (P=0.75 mm)
Dimensions	Approx. 76 mm diameter × 89 mm/3.0 × 3.5 in. (distance from camera lens-mount flange)
Weight	Approx. 420 g (14.8 oz.)

Nikon reserves the right to change the specifications of the hardware and software described in this manual at any time and without prior notice. Nikon will not be held liable for damages that may result from any mistakes that this manual may contain.

■■ *The AF-S DX NIKKOR 18–105 mm f/3.5–5.6G ED VR*

The AF-S DX NIKKOR 18–105 mm f/3.5–5.6G ED VR is for use exclusively with Nikon DX format digital cameras. Superior optical performance and image rendering are ensured by the use of aspherical lens elements and elements made using extra-low dispersion (ED) glass to correct chromatic aberration. A rounded aperture produces soft, esthetically-pleasing blurring of point light sources in out-of-focus areas of the image (*bokeh*). If the camera is equipped with an AF-ON button, vibration reduction will not be activated when the AF-ON button is pressed.

Using the Built-in Flash

When using the built-in flash, be sure the subject is at a range of at least 0.6 m (2 ft.) and remove lens hoods to prevent vignetting (shadows created where the end of the lens obscures the built-in flash).

Camera	Zoom position	Minimum distance without vignetting
D5000, D3100, D3000	18 mm	2.5 m/ 8 ft. 2 in.
	24 mm	1.0 m/ 3 ft. 3 in.
D700, D7000, D300 series, D200, D100, D80	All	No vignetting at any focus distance
D90, D70 series	18 mm	1.5 m/ 4 ft. 11 in.
	24 mm	No vignetting at any focus distance
D50	18 mm	1.0 m/ 3 ft. 3 in.
	24 mm	No vignetting at any focus distance
D60, D40 series	18 mm	2.5 m/ 8 ft. 2 in.
	24 mm	1.0 m/ 3 ft. 3 in.
	35 mm	No vignetting at any focus distance

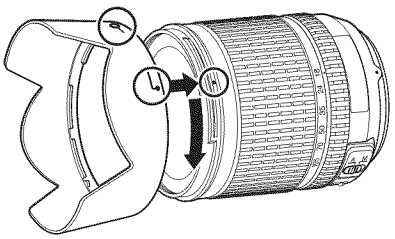
Because the built-in flash units for the D100 and D70 can only cover the angle of view of a lens with a focal of 20 mm or more; vignetting will occur at a focal length of 18 mm.

Lens Care

- Keep the CPU contacts clean.
- Use a blower to remove dust and lint from the lens surfaces. To remove smudges and fingerprints, apply a small amount of ethanol or lens cleaner to a soft, clean cotton cloth or lens-cleaning tissue and clean from the center outwards using a circular motion, taking care not to leave smears or touch the glass with your fingers.
- Never use organic solvents such as paint thinner or benzene to clean the lens.
- The lens hood or NC filters can be used to protect the front lens element.
- Attach the front and rear caps before placing the lens in its flexible pouch.
- When a lens hood is attached, do not pick up or hold the lens or camera using only the hood.
- If the lens will not be used for an extended period, store it in a cool, dry location to prevent mold and rust. Do not store in direct sunlight or with naphtha or camphor moth balls.
- Keep the lens dry. Rusting of the internal mechanism can cause irreparable damage.
- Leaving the lens in extremely hot locations could damage or warp parts made from reinforced plastic.

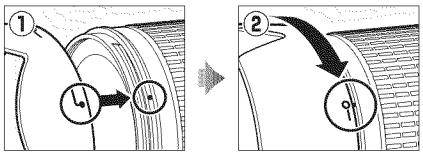
Supplied Accessories

- 67 mm Snap-on Front Lens Cap LC-67
- Rear Lens Cap
- Flexible Lens Pouch CL-1018
- Bayonet Hood HB-32 (attaches as shown at right)



Optional Accessories

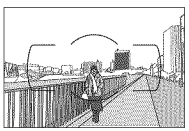
- 67 mm screw-on filters
- Rear Lens Cap LF-1 or Rear Lens Cap LF-4



A Note on Wide-Angle Lenses

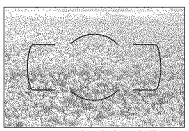
Autofocus may not provide the desired results with wide– and super-wide–angle lenses in the following situations:

1 The subject does not fill the focus point.
If the subject does not fill the focus point, the camera may focus on the background and the subject may be out of focus.



Example: *A far-off portrait subject at some distance from the background*

2 The subject contains many fine details.
The camera may have difficulty focusing on subjects that contain many fine details or that are lacking in contrast.



Example: *A field of flowers*

In these cases, use manual focus, or use focus lock to focus on another subject at the same distance and then recompose the photograph. For more information, see "Getting Good Results with Autofocus" (🕮 93).

■■ *Supported Standards*

- **DCF Version 2.0**: The Design Rule for Camera File Systems (DCF) is a standard widely used in the digital camera industry to ensure compatibility among different makes of camera.
- **DPOF**: Digital Print Order Format (DPOF) is an industry-wide standard that allows pictures to be printed from print orders stored on the memory card.
- **Exif version 2.3**: The D7000 supports Exif (Exchangeable Image File Format for Digital Still Cameras) version 2.3, a standard in which information stored with photographs is used for optimal color reproduction when the images are output on Exif-compliant printers.
- **PictBridge**: A standard developed through cooperation with the digital camera and printer industries, allowing photographs to be output directly to a printer without first transferring them to a computer.
- **HDMI**: **H**igh-**D**efinition **M**ultimedia **I**nterface is a standard for multimedia interfaces used in consumer electronics and AV devices capable of transmitting audiovisual data and control signals to HDMI-compliant devices via a single cable connection.

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Approved Memory Cards

The following SD memory cards have been tested and approved for use in the D7000. Cards with class 6 or faster write speeds are recommended for movie recording. Recording may end unexpectedly when cards with slower write speeds are used.

	SD memory cards	SDHC memory cards [2]	SDXC memory cards [3]
SanDisk	1 GB, 2 GB [1]	4 GB, 8 GB, 16 GB, 32 GB	64 GB
Toshiba		4 GB, 8 GB, 16 GB, 32 GB	
Panasonic		4 GB, 6 GB, 8 GB, 12 GB, 16 GB, 32 GB	48 GB, 64 GB
Lexar Media		4 GB, 8 GB	—
Platinum II		4 GB, 8 GB, 16 GB, 32 GB	
Professional		4 GB, 8 GB, 16 GB, 32 GB	

1 Check that any card readers or other devices with which the card will be used support 2 GB cards.

2 Check that any card readers or other devices with which the card will be used are SDHC-compliant. The camera supports UHS-I.

3 Check that any card readers or other devices with which the card will be used are SDXC-compliant. The camera supports UHS-I.

Other cards have not been tested. For more details on the above cards, please contact the manufacturer.

Memory Card Capacity

The following table shows the approximate number of pictures that can be stored on a 8 GB SanDisk Extreme SDHC card at different image quality and size settings.

Image quality	Image size	File size [1]	No. of images [1]	Buffer capacity [2]
NEF (RAW), Lossless compressed, 12-bit	—	15.5 MB	291	11
NEF (RAW), Lossless compressed, 14-bit	—	19.4 MB	223	10
NEF (RAW), Compressed, 12-bit	—	13.6 MB	398	15
NEF (RAW), Compressed, 14-bit	—	16.7 MB	330	12
JPEG fine [3]	L	7.8 MB	813	31
	M	4.4 MB	1400	100
	S	2.0 MB	3100	100
JPEG normal [3]	L	3.9 MB	1600	100
	M	2.2 MB	2800	100
	S	1.0 MB	6000	100
JPEG basic [3]	L	2.0 MB	3100	100
	M	1.1 MB	5500	100
	S	0.5 MB	11000	100

1 All figures are approximate. File size varies with scene recorded.
2 Maximum number of exposures that can be stored in memory buffer at ISO 100. Drops if **Optimal quality** is selected for **JPEG compression** or long exposure noise reduction is on.
3 Figures assume **JPEG compression** is set to **Size priority**. Selecting **Optimal quality** increases the file size of JPEG images; number of images and buffer capacity drop accordingly.

d7—Max. Continuous Release (🕮 217)
The maximum number of photographs that can be taken in a single burst can be set to any amount between 1 and 100.

Battery Life

The number of shots that can be taken with fully-charged batteries varies with the condition of the battery, temperature, and how the camera is used. In the case of AA batteries, capacity also varies with make and storage conditions; some batteries can not be used. Sample figures for the camera and optional MB-D11 multi-power battery pack are given below.

- **CIPA standard** [1]
 One EN-EL15 battery (camera): Approximately 1050 shots
 One EN-EL15 battery (MB-D11): Approximately 1050 shots
 Six AA batteries (MB-D11): Approximately 650 shots
 Two EN-EL15 batteries (one in camera and one in MB-D11): Approximately 2100 shots
- **Nikon standard** [2]
 One EN-EL15 battery (camera): Approximately 4500 shots
 One EN-EL15 battery (MB-D11): Approximately 4500 shots
 Six AA batteries (MB-D11): Approximately 1700 shots
 Two EN-EL15 batteries (one in camera and one in MB-D11): Approximately 9000 shots

1 Measured at 23 °C/73.4 °F (±2 °C/3.6 °F) with an AF-S DX NIKKOR 18–105mm f/3.5–5.6G ED VR lens under the following test conditions: lens cycled from infinity to minimum range and one photograph taken at default settings once every 30 s; flash fired once every other shot. Live view not used.

2 Measured at 20 °C/68 °F with an AF-S NIKKOR 70–200mm f/2.8G ED VR II lens under the following test conditions: image quality set to JPEG basic, image size set to **M** (medium), shutter speed $^1/_{250}$ s, shutter-release button pressed halfway for three seconds and focus cycled from infinity to minimum range three times; six shots are then taken in succession and monitor turned on for five seconds and then turned off; cycle repeated once exposure meters have turned off.

The following can reduce battery life:

- Using the monitor
- Keeping the shutter-release button pressed halfway
- Repeated autofocus operations
- Taking NEF (RAW) photographs
- Slow shutter speeds
- Using the optional WT-4 wireless transmitter
- Using a GP-1 GPS unit
- Using VR (vibration reduction) mode with VR lenses

To ensure that you get the most from rechargeable Nikon EN-EL15 batteries:

- Keep the battery contacts clean. Soiled contacts can reduce battery performance.
- Use batteries immediately after charging. Batteries will lose their charge if left unused.

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